Ahsay Offsite Backup Server

v6

Administrator's
Guide

**Ahsay Systems
Corporation Limited**

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Ahsay Offsite Backup Server

Administrator's Guide

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Revision History

Date	Descriptions	Type of modification
08 Apr 2011	First revision for AhsayOBS v6.3 Release	New
26 Feb 2014	12.1 About Group Policy	Modified
	12.5.1 Manage Policy Group	Modified
	12.5.6 Exclude File Size Over Policy	New
	12.5.7 Exclude Network Share Policy	New
	25.9 Getting User Information	Modified
	25.40 List Policy Groups	Modified
28 Feb 2014	25.13 Get Backup Set	Modified
24 Jun 2014	1.3 System Requirements	Modified
	5.3 Evaluation Expiry and Free Edition	Modified
	11.1 Create Backup User	Modified
	17.5 AutoUpdate Limitations	Modified
	17.7 Enable AutoUpdate on AhsayUBS	Modified
	26 Further Information	Modified
08 Aug 2014	25.6 Modifying User Profile	Typo
12 Aug 2014	25.13 Get Backup Set	Modified
07 Oct 2014	20.3 Import pfx certificate into Java keystore	Modified
	Appendix G Applying SSL certificate(pfx) to the Java keystore with OpenSSL	New
27 Oct 2014	10.8 Reseller Web SSL Certificate Installation	Typo
	24.1 Listening to non-standard TCP/IP Port	Typo
	24.2 Listening to a single IP address	Typo
12 Dec 2014	24.3 Restricting access to system page by IP address	Typo
	Copyright Notice	Modified
	20.1 Installing a trusted SSL certificate	Modified
26 Mar 2015	1.2 Definitions, Acronyms and Abbreviation	Modified
	5.1 Licensee Name and License Key	Modified
30 Mar 2015	25.13 Get Backup Set	Modified

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1 Overview

1.1 Conventions

A list of notations that are used throughout this document.

Convention	Descriptions	Example
Bold	Important Information	**WARNING: You must check the timestamp of obrA.jar before proceeding to step2.**
Italic	Folder Path or File Path	*/usr/local/obs/conf*
[]	Graphical Interface Elements	[Manage Log]
%%	Filepath in Windows format	%OBSR_HOME%
$	Filepath in Linux/Unix/BSD format	$OBSR_HOME
italic	Command	`mkdir /usr/local/obs`

Notation that are used specifically for API section:

Convention	Descriptions
<Text Inside angle brackets>	Placeholder for which you must supply a value.
[Text inside square brackets]	Optional items.
{Text insides braces}	Set of required items; choose one.
Vertical bar (|)	Separator for mutually exclusive items; choose one.
Ellipsis (…)	Items that can be repeated.

1.2 Definitions, Acronyms and Abbreviation

Term/Abbreviation	Definition
AhsayOBS	Ahsay™ Offsite Backup Server
AhsayRPS	Ahsay™ Replication Server
AhsayRDR	Ahsay™ Redirector Server
AhsayOBM	Ahsay™ Online Backup Manager
AhsayACB	Ahsay™ A-Click Backup
OBSR_HOME	The install location of AhsayOBS & AhsayRPS.

	Windows *C:\Program Files\AhsayOBS and AhsayRPS* Linux/FreeBSD/Solaris */usr/local/obs/*
OBSR_HOME_BAK	The backup location of AhsayOBS & AhsayRPS. It is used temporary during the install/upgrade process. Windows `C:\Program Files\AhsayOBS and AhsayRPS.bak\` Linux/FreeBSD/Solaris */usr/local/obs.bak/*
CONF_HOME	The directory to store AhsayOBS & AhsayRPS configuration files. Windows *%OBSR_HOME%\conf* Linux/FreeBSD/Solaris $OBSR_HOME/conf
USER_HOMES	The directories where AhsayOBS and AhsayRPS store the AhsayOBM & AhsayACB users accounts. The default location is: *%OBSR_HOME%\users*
POLICY_HOME	The directory where AhsayOBS and AhsayRPS store its system users and group policy information. Windows *%OBSR_HOME%\system\policy* Linux/FreeBSD/Solaris $OBSR_HOME\system\policy
SYSTEM_HOME	The directory where AhsayOBS and AhsayRPS store its system information. Windows *%OBSR_HOME%\system* Linux/FreeBSD/Solaris *$OBSR_HOME\system*
WEBAPPS_HOME	Location of the webapps directory inside the installation directory of AhsayOBS & AhsayRPS.

	Windows *%OBSR_HOME%\webapps.* Linux/FreeBSD/Solaris *$OBSR_HOME\webapps*
WEBAPP_HOME_BAK	A backup of the webapps directory inside AhsayOBS and AhsayRPS. Windows *%OBSR_HOME%\webapps.bak* Linux/FreeBSD/Solaris *$OBSR_HOME\webapps.bak*
RECEIVER_HOME	The location where the replicated data is stored for a particular replication receiver.
JAVA_HOME	The location where JAVA is installed

1.3 System Requirements

Please refer to the [FAQ: Ahsay Software Compatibility List (SCL) for version 6.3 or above (2323)](#) for system requirements of AhsayOBS v6.

It is recommended to install AhsayOBS on server grade O/S and hardware platform. However, for evaluation purposes installation on Windows XP or Windows 7 platforms would be fine for testing.

2 Quick Start

This chapter describes the minimum steps required to start using AhsayOBS. Please consult the information in the following chapters for a complete reference to all features available in AhsayOBS.

2.1 Getting started

To setup your AhsayOBS, please do the followings:
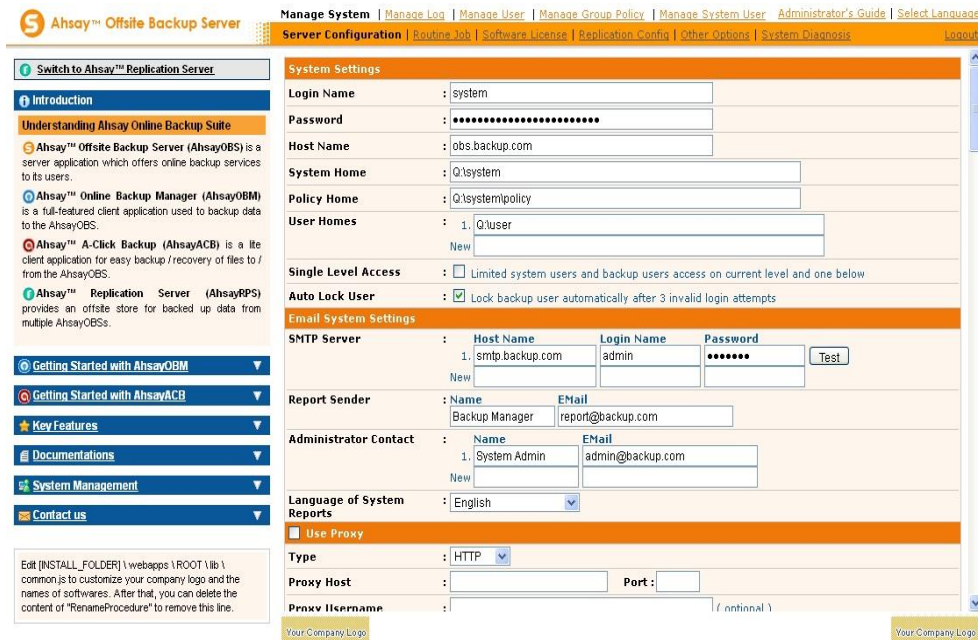
Setup Your Backup Server

1. Point your browser to http://<your-obs-server>.

2. Login as AhsayOBS administrator.

    The default login name and password are "system" and "system" respectively.
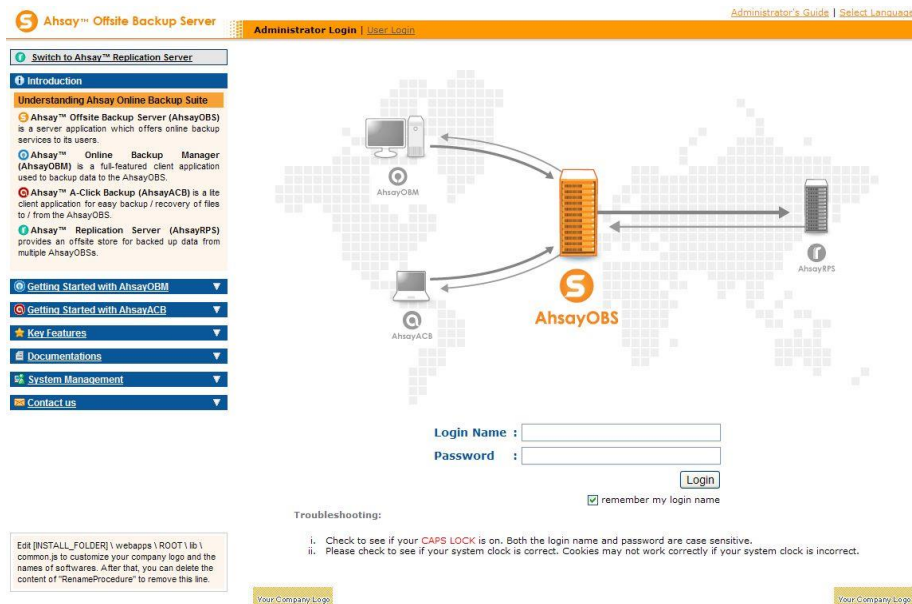
3. Set your hostname.

Enter a resolvable hostname for your backup server (e.g. backup.your-company.com) into the [Host Name] text field. Although you can supply an IP address here, it is preferable to use a hostname instead.

If you are using custom TCP port for HTTP/HTTPS connection (i.e. non 80 or 443), you need to append the custom port number to the [Host Name] field.

e.g. backup.yourcompany.com:8080

If you are not using custom TCP port, open a browser on the backup server and type in the value of [Host Name] as an URL and check if you get the backup server homepage. If you are not able to connect to the webpage, please try until you can reach it and put this value in the [Host Name] field.

4. Set the [User Homes] directory.

    [User Homes] refers to directories where AhsayOBS stores the backup files and backup log for all its users. You should set [User Homes] to directories where there are lots of free spaces.

5. Set your SMTP Server.

    Enter a resolvable hostname (or an IP address) of your SMTP server into the [SMTP Server] text field. There is a test button at the end of each SMTP settings to test the connection. The testing result will be displayed next to the test button.

    If your SMTP server is not running on standard SMTP ports (i.e. port 25), you can append your custom port number to your SMTP server address to use this server e.g. mail.your-company.com:8025.

You are only required to enter the [Login Name] and [Password] if your SMTP server enquires user authentication when sending emails.

Note:

SMTP server with Transport Layer Security (TLS) is not supported.

6. Press the [Update] button.

7. Enter your license key (You can skip this step if you are evaluating this software). There is a connection test button underneath the license field entry box to test the connection to our license server. The testing result will be displayed next to the test button.

Enter the licensing information printed on [End User License Agreement] printout into the text field provided in the [Manage System] -> [Software License] panel. Please note that both [Licensee Name] and [License Key] are case sensitive.
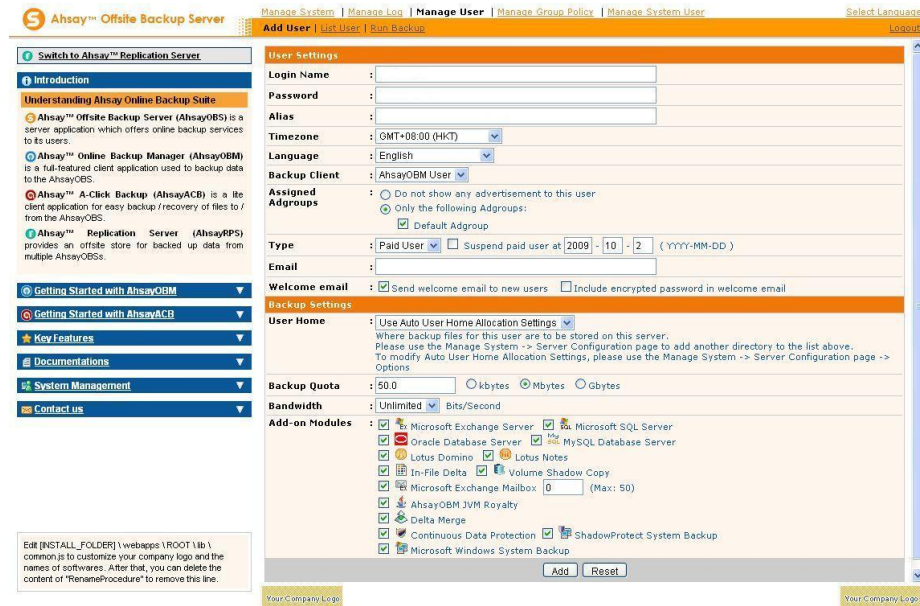
Note:

By default AhsayOBS service listens to port 80 for http and port 443 for https. Please make sure your servers firewall is configured to allow incoming access via these ports.

Add Backup User

You need to add backup user to the system before you can start backing up data to AhsayOBS. To add a backup user to the system, please do the followings:

1. Click the [Manage User] link available at the top menu and choose [Add user].

2. Enter the user information for the new user account into the form provided.

Key	Description
Login Name	Login Name of the new account.
Password	Password of the new account.
Alias	Another name of the new account.
Time zone	Time zone of the new account
Language	Preferred language for email report of the new account.
Backup Client	Choose AhsayOBM client or AhsayACB client.
Advertise Group	Choose whether advertisements are displayed at the bottom of the AhsayOBM/AhsayACB client
Type	Trial User – Account of this type will be deleted from the system after an inactivity period of 30 days by default.

Paid User – Account of this type will stay within the system until it is removed form the system by administrator. |
Email	Email address of the new account.
Welcome email	Check this option to send a welcome email to the user.
User Home	The top directory where the software stores backup files and all other information for the new account.

Backup Quota	Backup Quota of the new account.
Bandwidth	Bandwidth throttling for this user account.
Add-on modules	Add-on modules for this user account.

3. Press the [Add] button to create the user.

4. The account is now ready.

Login and Run Backup

1. Point your browser to http://<your-obs-server>/.

2. Click the [User Login] link at the top.

3. Login with the login name and password you have created in previous section.

4. Follow the [Quick Start] information available in the User's Guide to install the AhsayOBM or AhsayACB onto users computer to start backing up data.

3 Best Practices and Recommendations

This chapter lists out all best practices and recommendations which you should consider before deploying AhsayOBS to a production environment.

3.1 AhsayOBS Hardware Requirements

AhsayOBS should be installed on a machine supporting 64 bit multiple CPU and multiple cores. A 64 bit Operating System will allow AhsayOBS to run on a 64 bit Java JRE platform, as 64 bit Java is capable of supporting larger Java heap size settings. This type of configuration will provide sufficient capacity for future business expansion, to meet the needs of exisiting customers, and to support new AhsayOBS server features.

A more powerful machine will also reduce the need for frequent hardware upgrades, which will require service down time for data migration.

It is a good idea to ensure your AhsayOBS server is equipped with some redundancy features, i.e power supply, network card, and is connect it to a UPS (Uninterupterable Power Supply).

3.2 AhsayOBS Server Configuration

One of the most important factors in determining backup and restore performance is the disk performance of your AhsayOBS server. Poor backup and restore performance can be attributed to:

i.   The use of network drives for AhsayOBS system and user homes.

ii.   The use of a single large disk or volume for multiple AhsayOBS user homes

iii.   Inadequate balancing of the disk I/O across multiple physical drives

To improve performance of your AhsayOBS server, you should consider using:

i.   A separate drive dedicated for your O/S installation
ii.   A separate local dedicated for your AhsayOBS installation home
iii.   A separate local drive for each individual AhsayOBS user home
iv.   A separate local drive for AhsayOBS system home
v.   Distribute user accounts across multiple user homes to balance the I/O load
vi.   Your AhsayOBS service should be running on a dedicated machine

It is not recommended to use the O/S partition or drive as the AhsayOBS system or user home. If the O/S partition runs out of

space, this will cause your O/S to become unstable and may even crash your AhsayOBS server.

3.3 AhsayOBS Java Heap Size Setting

Due to features such as CRC checking, delta merging, support for image, Hyper-V, VMware backupsets AhsayOBS v6 may require more Java memory Although, there is no exact forumula for calculating the correct Java heap size setting for any given AhsayOBS server. In general a maximum Java heap size (-Xmx) setting of at least 2048M is recommended, assuming AhsayOBS is running on a 64 bit Operating System.

When setting the maximum Java heap size for AhsayOBS please ensure this value does not exceed 50% of the RAM on the server, to allow sufficient memory for O/S processes and operations.

It is not recommended to set excessively high values for the maximum Java heap size, as this could result in AhsayOBS performance issues during internal Java VM garbage collection or memory recycling routines.

3.4 How many concurrent connections on AhsayOBS are allowed?

This is a common question and there is no exact formula for calculating the maximum number of user accounts or the number of concurrent connection on any AhsayOBS server. As it is dependent on many factors such as but not limited to:

i.   AhsayOBS server hardware
ii.   The composition or mix of users accounts, i.e. AhsayOBM or AhsayACB users
iii. The number of backupsets per a user account
iv.   The type of backupsets per user account
v.   The backup behavior of each user
vi.   The number of concurrent backup jobs
vii. The disk I/O on the AhsayOBS
viii. Network bandwidth

Also, AhsayOBM/AhsayACB v6 clients are enhanced to utilize multiple threads for backup and restore. It is recommended to keep the maximum number of concurrent backup jobs on the OBS to 1000, to avoid potential performance problems.

Note:
When the number of concurrent connection increase, the performance on the AhsayOBS may be turn down. To increase the performance, we

would recommend modifying the maxThreads value in the %OBS_HOME%\conf\server.xml in the AhsayOBS.

If you want to support multiple concurrent connections more than 100, you can configure the maxThreads value based on the following formula

maxThreads = Y x 3

(Y= the number of concurrent connections)

Otherwise you are not required to modify the maxThreads value.

For example, the number of concurrent connection is 150, the suggested value of the maxThreads is 450.

(Assuming the network environment between the AhsayOBS and AhsayOBM/AhsayACB is good, and AhsayOBS home on local hard disk with good disk I/O.)

3.5 AhsayOBS QPS Settings

To ensure user accounts are evenly distributed across your user home drives. It is recommended you configure your QPS settings, this can be under via your AhsayOBS web console under [Manage System] -> [Server Configuration] -> [Auto User Home Allocation]. The QPS settings for each user home drives should not be set to "unlimited" or "Not Used".

For AhsayOBS servers with multiple user homes, you should consider a QPS setting of 50% to 70% for each user home drive. This will prevent user accounts being concentrated onto one drive, which may cause the drive to run out of disk space very easily. This could result in data corruption on the affected user home(s).

Also, an even distribution of user accounts across your AhsayOBS user homes will improve backup performance, by spreading the disk I/O load.

3.6 Use a Static IP Address

The use of dynamic IP addresses for AhsayOBS domain names may result in an unstable backup service whenever the IP address re-cycles.

A static IP address will ensure the remote IP address sent by AhsayOBS to the Ahsay license server will remain the same during daily routine license checks. This will avoid potential license errors, i.e. 1011 or 1012 license errors which could result of the automatic shutdown of your AhsayOBS service.

It is strongly recommended to use a static IP address for your AhsayOBS server to ensure a stable and reliable backup service.

3.7 Scheduling of Backup Jobs on AhsayOBS

To improve overall backup performance we recommend that scheduled backup jobs (by default starts at 09:00pm) should not be confined to a few start times.

The start times of scheduled backup jobs should be evenly distributed throughout the day to avoid potential performance bottlenecks on your AhsayOBS server.

3.8 Enable Replication on AhsayOBS

To ensure you have a backup of your AhsayOBS server in the event of any hardware issues. We recommend enabling replication on your AhsayOBS server to a separate AhsayRPS server.

3.9 AhsayOBS Server Scaling

To cope with business and or data growth, instead of upgrading to new hardware to support additional users and data, which could involve a lengthy data migration process.

Your backup service capacity can be upgraded using an AhsayRDR solution. The advantage of using AhsayRDR is it allows you to expand your backup service easily by adding new AhsayOBS servers to the current setup with minimal interruption to your backup service.

3.10 Anti-Virus Software on AhsayOBS

If you have anti-virus software installed on your AhsayOBS server, please make sure the user home and system home drives are excluded from scanning, as this may interfere with normal AhsayOBS operation.

3.11 Enable CRC Checking

It is strongly recommended the CRC checking on AhsayOBS is enabled to ensure the integrity of the backup files.

3.12 Running AhsayOBS as a non-root user

If you are running AhsayOBS on Linux, you are advised to run the AhsayOBS service as non-root user. (AhsayOBS service is run under root by default). This minimizes the impact of damages that could be done on the system in case the system has been compromised by hackers.

3.13 Expose only TCP port 80 and 443 to the public

It is recommended to expose only TCP port 80 and 443 to the public on your firewall. Please consult the user's manual of your firewall for more information on how to do so.

3.14 Restricting Access on Administration Panel

For security reasons, we would recommend that the Administration Panel of AhsayOBS/AhsayRPS must be hidden from public access, i.e. it should be exposed to local area network only, or you may restrict a range of IP addresses to access your AhsayOBS/AhsayRPS management console. For further information, you can follow our instructions in the following chapter "Restricting access to system page by IP address".

3.15 System Resources

Extra system resources may required for the following backup set types:

- Windows System Backup
- Windows 2008 System State
- Shadow Protect
- Microsoft Exchange
- Microsoft SQL Server
- Oracle Database
- Lotus Domino Server
- VMware ESX/ESXi
- VMware Server
- Microsoft Hyper V

In most cases, the file size of a single file in these backup set types are large, therefore extra system resources (such as memory and disk space) are required for using the delta merging feature. For user homes containing backupsets with delta merge enabled. It is recommended to maintain at least 30% to 40% free disk space.

3.16 AhsayOBS File System Tuning

In order to ensure optimal performance from an AhsayOBS server file system, please ensure that you:

1. Use local drives instead of network drives, i.e. iSCSi, NFS, SAMBA etc

2. Tune your file system. For example, for NTFS, run the followings:

```
fsutil behavior set disable8dot3 1
fsutil behavior set mftzone 2
fsutil behavior set disablelastaccess 1
fsutil behavior set memoryusage 2
```

3. Turn off drive indexing [on MS Windows O/S this is used for faster searching] feature for each system and user home drive(s).

4. For Linux/Unix mount points consider mounting them using "noatime".

3.17 Network Load Balancing Configuration

For AhsayOBS servers which are configured with network load balancing, i.e. a dual WAN router or Round Robin routing. A static route should be configured for your AhsayOBS server connection to the Ahsay license server (lic.ahsay.com). This will ensure the remote IP address sent by AhsayOBS to the Ahsay license server will remain the same during daily routine license checks. This will avoid potential license errors, i.e. 1011 or 1012 license errors which could result of the automatic shutdown of your AhsayOBS service.

3.18 AhsayOBS Reseller Panel and AhsayRDR

If the Reseller Panel feature is enabled on your AhsayOBS server and you plan to configure AhsayOBS as part of an AhsayRDR setup both AhsayOBS and AhsayRDR must be on v6.7.0.0 or above. For backup users accounts created by resellers, AhsayOBM/AhsayACB v6.7.0.0 or above clients are only supported.

3.19 AhsayOBS Service on AhsayUBS Server with ZFS

For AhsayOBS service which are running on an AhsayUBS (v2.3.0.0 or above) server and is configured with ZFS volume(s). It is strongly recommended to install at least 4 GB RAM, as ZFS volumes require relatively large amount of memory to run. The amount of memory

required is dependent on the size of the ZFS volume and the amount of I/O activity.

3.20 AhsayOBS and AhsayRDR with Wild Card SSL Certificates

For AhsayRDR servers installed with a wild card SSL certificate, all member AhsayOBS servers belonging to this setup must be installed with the same wild card SSL certificate. Otherwise AhsayRDR will not be able to connect to any member AhsayOBS server installed with a different wild card SSL certificate via https.

3.21 Maximum Number of Backup Sets for a Backup User Account

Although there are no restrictions on the maximum number of backup sets that can be created on a backup user account. For administration purposes it is recommended that each backup user account have no more than 10 backup sets.

4 Server Configuration

This chapter describes how you can use the [Manage System] -> [Server Configuration] page (shown below) to manage the configuration of your backup server.

Key	Description
Login Name/Password	Username and password of the system account.
Host Name	A resolvable hostname of this server (e.g. backup.your-company.com). Although you can supply an IP address here, it is preferable to use a host name instead.
System Home	The directory where AhsayOBS stores its system information. The default directory for [System Home] is %OBSR_HOME%\system. Normally, you do not need to modify the value of this setting unless you want to store this information elsewhere.
Policy Home	The directory where AhsayOBS stores its system user and group policy information. The default directory for [Policy Home] is %OBSR_HOME%\system\policy. Normally you do not need to modify the value of this setting unless you want to store this information elsewhere.
User Homes	The directories where AhsayOBS store the backup files and backup log for all its users. You should set [User Homes] to partition where there is lots of free space.
Single Level Access	It determines whether system user has been restricted access to own created system users and backup users.
Auto Lock User	The backup user will be locked automatically after 3 consecutive invalid login attempts via AhsayOBS web console, Redirector web console and backup client console.
SMTP Server	The SMTP server that AhsayOBS will use to deliver its email reports.
Report Sender	The name of email address that will be used as a sender for all outgoing emails.
Administrative Contact	The name(s) and email address (es) of the system administrator. System reports (e.g. Daily Usage Report and Daily Error Report) will be delivered to these mailboxes.
Language of System Reports	The language which will be used in all system reports.
Use Proxy	Whether to use proxy to access the internet.

Type	The type of proxy to be used (HTTP / SOCKS).
Proxy Host/Port	Proxy server host and port number.
Proxy Username/Password	Proxy user name and password if user authentication is used.
Use Windows Active Directory (AD) Authentication	Whether to use Windows Active Directory Authentication.
Domain Name	The domain name to be used for AD authentication.
Domain Controller IP	The IP address of the domain controller.
Remove AhsayOBS account	Whether to delete AhsayOBS user account when AD user account is disabled/deleted.
Use Redirectory(RDR)	Whether to use redirector.
Protocol	The type of protocol to be used (HTTP/HTTPS)
Hostname/Port	Redirector host and port number.
Login Name/Password	System username and password for the redirector.
Administrator Hostname	The host name/IP address that backup users created by administrator will be used to contact this server via redirector (e.g. redirector.company.com)
Use Windows Event Log	When this option is enabled, this backup server writes the system log message to Windows Event Log. This feature is only valid in Windows platform.
Language Settings	It determines whether different languages are enabled.
Feature Settings	It determines whether the [HELP], restore link and install link should be available to users.
Permission updated files	It determines whether the existing files are copied to retention area before updating the permission settings.
Moved Files	It determines whether the existing files are copied to retention are before updating the file paths.
Auto User Home	Maximum QPS Ratio can be changed.

Allocation	
Welcome Email	It determines if welcome email will be sent to new users and other options on welcome emails.
Enable Free Trial Registration	Whether to enable free trial user registration.
Backup Quota	The default backup quota of trial users
Add-on Modules	The default modules available to trial users
Remove User	Whether to remove trial users and the length of trial period.
Configuration Recovery	System settings, policies and user profiles of a preferable date can be recovered.
Date	Dates of configuration can be recovered. At most 30 copies of configuration will be archived.
Path	Destination of recovered configuration.
Mode	Mode of configuration recovery. If "Auto" is selected and OBS user home is empty, the configuration including system settings, policies and user profiles will be decrypted and downloaded to their original locations. If "Manual" is selected, the configuration will be decrypted and downloaded to destination path.
Refresh	Reload archival dates
Restore	Download configuration to the destination path and perform configuration recovery in either "Auto" or "Manual" mode.

4.1 User Languages Setting
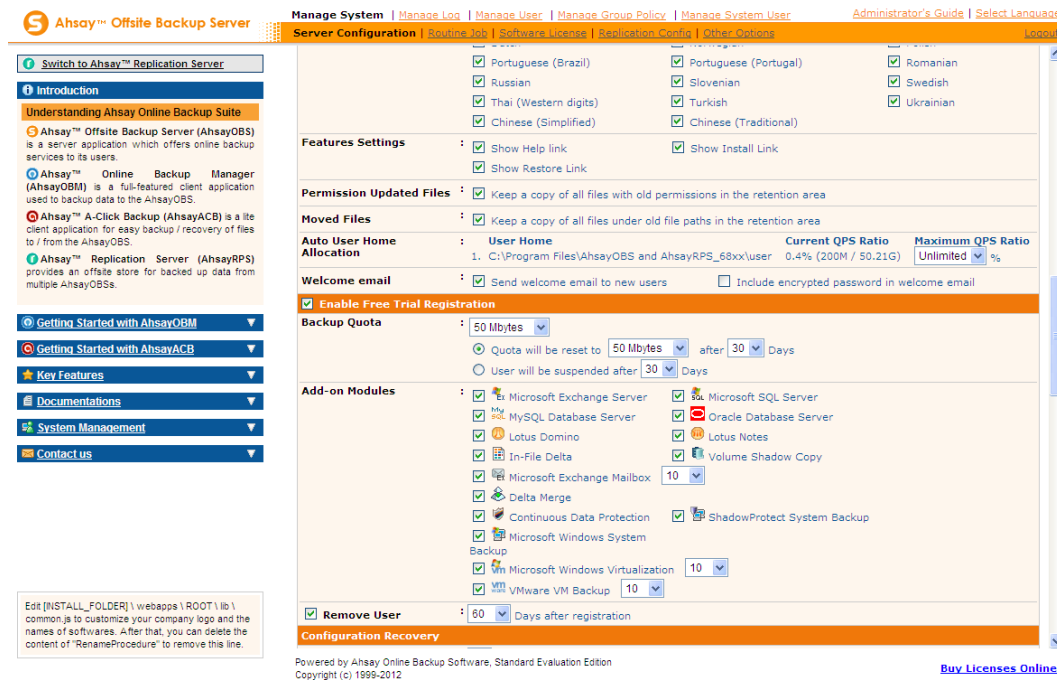
The language of the web interface can be easily changed to another language by:

1. Click the [Select Language] link available on the top right hand corner of the web interface.

2. Select the language of your choice.

3. All text messages from the original window are now displayed in the language you have just selected (see example below).
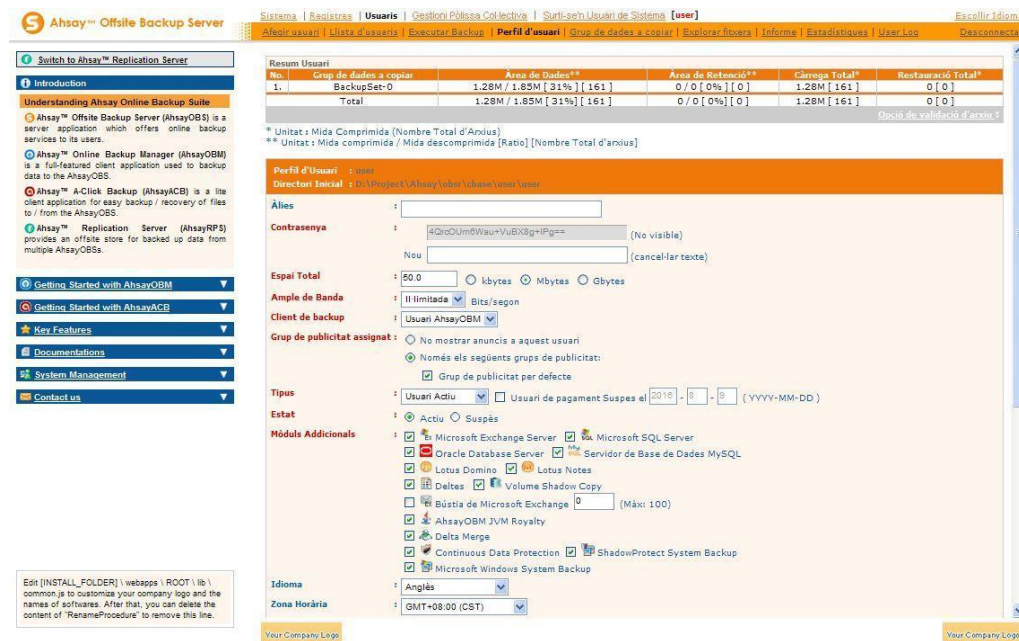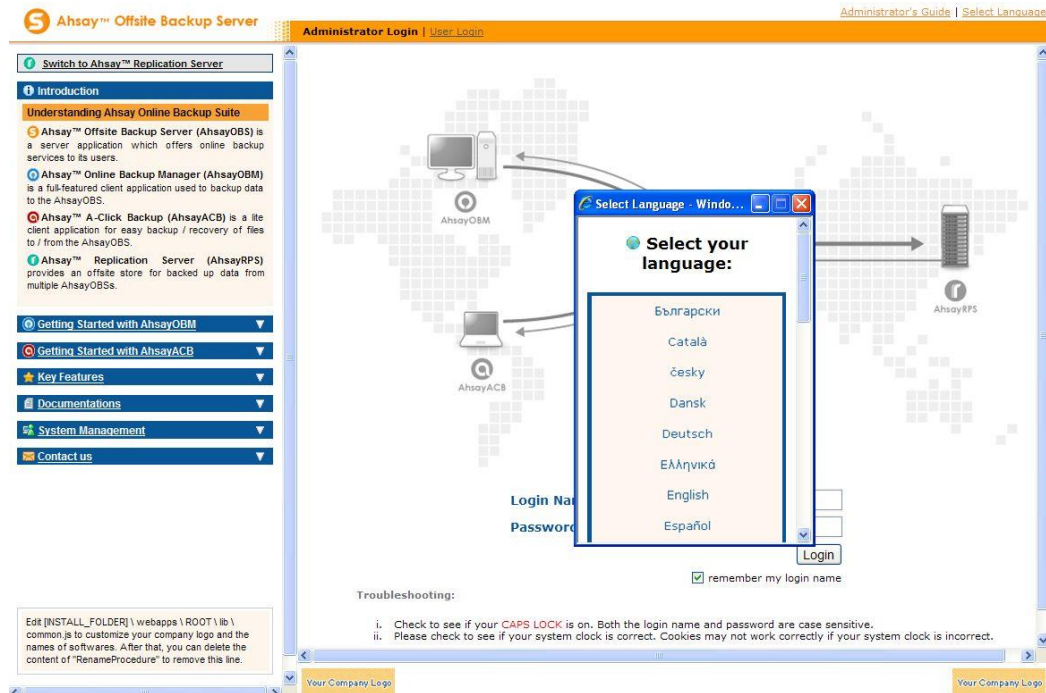
The languages currently supported by AhsayOBS are listed in Appendix A. You can limit the list of languages available to users by using the [Manage System] -> [Server Configuration] -> [Language Setting] options.
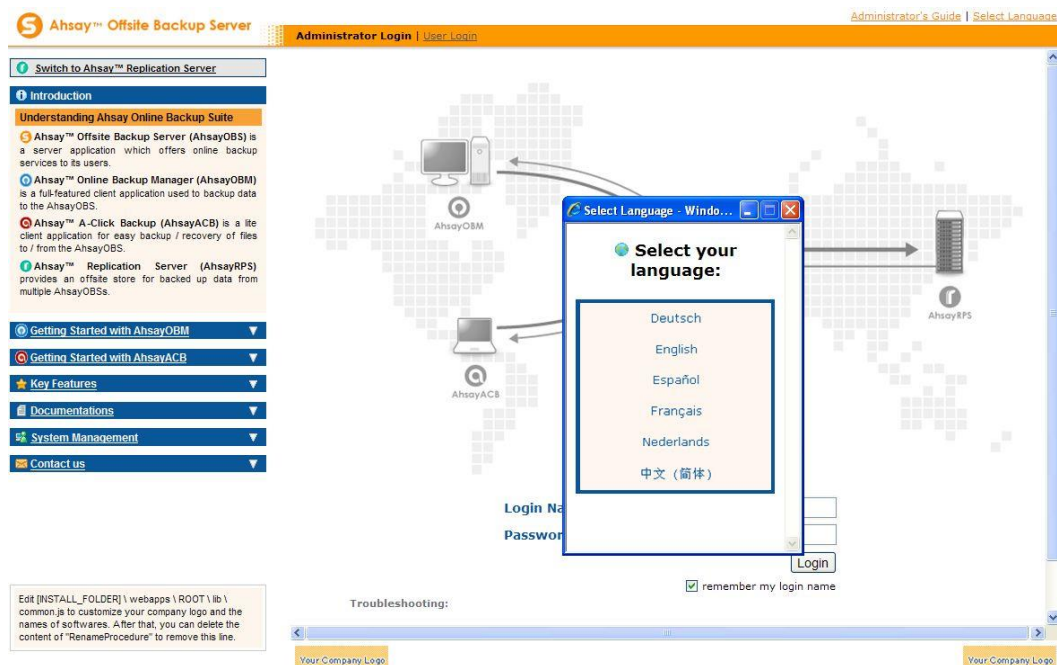
If you uncheck all checkboxes for all languages available in [Manage System] -> [Server Configuration] -> [Language Setting], the [Select Language] will no longer be available on the top right hand corner of the web interface (you need to refresh the top menu bar to see the change). Users will not be able to change the language of the web interface.

4.2 System Login Name/Password

The [Login Name] and [Password] setting under the [Manage System] -> [Server Configuration] page sets the login name and password (the default username is system password is system) that you would use to logon the system administration console. **Users are strongly recommended to change both the login name and password to something other than**

the default setting to reduce the possibility of unauthorized access to the AhsayOBS.

4.3 Host Name

The [Host Name] setting under the [Manager System] -> [Server Configuration] page sets the hostname of the backup server. This entry will be used as a reference to the backup server in all email reports. Please enter a hostname/IP address (a public hostname/IP address if you expect backup request originating from the internet).

Please make sure the [Host Name] entry is resolvable from the backup server itself. This means that if you enter "backup.yourcompany.com" into the [Host Name] entry, you can access the backup system welcome page via http://backup.yourcompany.com.

If you are running AhsayOBS on custom TCP port (i.e. Not Port 80 and Port 443), please append your custom TCP port number to the [Host Name] entry. For example, if you are running AhsayOBS on TCP Port 8080 for HTTP, please enter "backup.your-backup.com:8080" as your [Host Name] entry (Please do not enter the customer TCP Port for HTTPS, e.g. 8443, into the [Host Name] field as it will not work).

4.4 System Home, Policy Home and User Home Directories

The [System Home], [Policy Home] and [User Homes] setting under the [Manage System] -> [Server Configuration] page sets the system home directory, policy home directory and user home directories for AhsayOBS (the default values are %OBSR_HOME%\system, %OBSR_HOME%\system\policy and %OBSR_HOME%\user).

The system home directory for AhsayOBS defines a directory in which AhsayOBS will store all its system information.

The policy home directory for AhsayOBS defines a directory in which AhsayOBS will store all its system users and group policy information.

The user home directories for AhsayOBS define a list of directories in which AhsayOBS can be used to store the user folder for each backup user. Each user folder contains the backup setting as well as all backup data owned by this particular user.

AhsayOBS can be configured with multiple user home directories, this allows for the distribution of user accounts across different hard disk partitions or different hard disks. This enables server administrator's to easily distribute the I/O loading across multiple drives, which helps to improve overall backup server performance. Also, the support of multiple user homes will allow for

easy expansion of the server storage. For example, if you want to add more storage to AhsayOBS, you can simply add another hard disk to the system and add the path to this new drive (e.g. E:\ or E:\Users) to the [User Homes] setting. You can then add new backup users or move existing backup users to this user home drive.

Backup users created by the AhsayOBM or AhsayACB "Free Trial Registration" wizard will always use the first [User Homes] entry as the user home to create backup users. If you want to offer free trial to your users and have enabled the "Free Trial Registration" option on the [Manage System] -> [Server Configuration] page, please make sure that there is enough free space available in the first entry of the [User Homes] settings to avoid running out of free space.

4.5 Single Level Access

The [Single Level Access] settings under the [Manage System] -> [Server Configuration] page defines system user access restriction to own created system users, backup users and backup users of system users. This restriction does not apply to system administrator. If you uncheck [Single Level Access] checkbox, system user can access all descendant system users and backup users.

4.6 Email System Setting

The [Email System Setting] settings under the [Manage System] -> [Server Configuration] page defines the various email setting that AhsayOBS will use to generate email reports to backup system administrator and backup users.

The [Email System Setting] -> [SMTP Server] -> [Host Name] entry defines the SMTP server that will be used by AhsayOBS to deliver its email reports. If you are using a SMTP server that is not running on SMTP standard TCP port (port25), please append your customer TCP port number for SMTP service to the [SMTP Server] -> [Host Name] entry (e.g. mail.your-company.com:8025).

You are only required to fill in the [SMTP Server] -> [Login Name] and [SMTP Server] -> [Password] entry if the SMTP server you are using required user authentication before accepting mail delivery requests. There is a test button at the end of each SMTP settings to test the connection. The testing result will be displayed next to the test button.

Multiple SMTP servers can be setup for AhsayOBS. If the first SMTP server is unavailable, the next SMTP server will be used.

The [Email System Setting] -> [Report Sender] entry defines the "Mail-From" email address that appears in all outgoing emails generated by AhsayOBS.

The [Email System Setting] -> [Administrator Contact] entry defines the administrative contact of AhsayOBS. AhsayOBS will send daily usage and error report and all critical system alerts to all email addresses defined here.

Note:

1. Since 6.13.4.0, we support GMAIL with secure SMTP.

2. SMTP on Exchange 2007 or above with administrator as login account is not allowed. When you setup the SMTP settings, you can either use another normal user account with mail box enabled and relay email permissions, or leave the login name and password field in the SMTP authentication as empty.

4.7 Proxy Setting

The [User Proxy] settings under the [Manage System] -> [Server Configuration] page defines whether AhsayOBS should use a proxy to gain access to the internet.

Two types of proxy, HTTP/HTTPS and SOCKS 4/5, are supported. You can use the [Proxy Host] and [Port] entries to define the location of your proxy server. If the proxy server you are using requires user authentication, please use the [Proxy Username] and [Proxy Password] entries to set the username/password for your proxy server.

Note:

Please make sure there are no traffic restictions on the proxy server, which could affect backup/restore performance.

4.8 Windows Active Directory (AD) Authentication Setting

When Windows Active Directory Authentication is enabled, user authentication will be dispatched to Windows Active Directory (AD) automatically if AhsayOBS fails to authenticate a user logon using its own records. This means that if an AD is presented in the network, it is only required to create a user account once in AD and the same user account can also be used in AhsayOBS, because AhsayOBS will create this user account automatically after authenticating this logon using AD. When this user logons to AhsayOBS, AhsayOBS will use Free Trial Registration settings above (even if it is not enabled) as the template of user profile (i.e. backup quota and add-on modules settings, but not Microsoft Exchange Mailbox which will be disabled by default) to be created. The user account created will be of "Paid"

type and of "AhsayACB" backup client (unless the user logons using "AhsayOBM").

To enable this feature, simply check the box of [Use Windows Active Directory (AD) Authentication] under the [Manage System] -> [Server Configuration] page (by default it is enabled).

To synchronize AhsayOBS and AD, removal of users can be configured. If you want to delete/disable AhsayOBS user account when the user is removed from AD, you can check the boxes in the section of [Remove AhsayOBS Account]. You can have both options checked and create your own standard. For example, setting [After a user account has been deleted from AD for 20 days, AhsayOBS will delete this user account automatically] and [After a user account has been deleted from AD for 10 days, AhsayOBS will disable this user account automatically], can results that when the user account is removed from AD after 10 days, the user account will be disabled and after 10 more days, the user account will be deleted.

WARNING:

AhsayOBS servers with Windows Active Directory Authentication enabled are not supported in an AhsayRDR environment.

4.9 Redirector

The [Use Redirector (RDR)] settings under the [Manage System] -> [Server Configuration] page defines whether the current AhsayOBS is used behind a redirector. If AhsayOBS is a member machine of an AhsayRDR setup, you must specify the AhsayRDR settings

In order to setup AhsayOBS v6 in an AhsayRDR environment, you must use AhsayRDR v6.

Note: For users' connection to the AhsayOBS user console or connection to the AhsayOBM/AhsayACB client agent though AhsayRDR, the hostname must be configured exactly as the AhsayRDR hostname configured in the "Use Redirector (RDR)" > "Hostname" setting.

☑ Use Redirector (RDR)			
Protocol	: http ▾		
Hostname	: backup.yourhostname.com	**Port :**	80
Login Name	: administrator		
Password	: ●●●●●●●●●●●		
Administrator Hostname	: backup.yourhostname.com		

WARNING:

Please make sure on the AhsayRDR server the "UserConsole" filter in the %RDR_HOME%\webapps\rdr\WEB-INF\web.xml" file is amended to include the IP address range of all member AhsayOBS servers, as by default the range setting is 127.0.0.1-127.0.0.1

Otherwise the affected AhsayOBS member servers will not be able to connect to AhsayRDR.

```
<filter-name>UserConsole</filter-name>
<filter-class>com.ahsay.rdr.www.IPFilter</filter-class>
<init-param>
<param-name>Range1</param-name>
<param-value>localhost</param-value>
</init-param>
<init-param>
<param-name>Range2</param-name>
<param-value>127.0.0.1-127.0.0.1</param-value>
</init-param>
</filter>
```

4.10   Language Setting

The [Language Setting] settings under the [Manage System] -> [Server Configuration] page defines the list of available languages on the web interface.

4.11   Features Setting

The [Feature Setting] settings under the [Manage System] -> [Server Configuration] page defines whether some customizable features on the web interface should be enabled or not.

Key	Description
Show Help link	It defines whether the [Help] link should appear at the top right hand corner of the web administration console (user interface only).
Show Restore link	It defines whether the [Restore] link should appear at the top right hand corner of the web administration console (user interface only).
Show Install link	It defines whether the [Install Software] link should appear at the top right hand corner of the web administration console (user interface only).

4.12   Permission Updated Files

The [Permission Updated Files] settings under the [Manage System] -> [Server Configuration] page defines whether AhsayOBS should make a copy of the file to the retention area before the file permission changes. When this option is set, all backup accounts will use more retention space but allows the users to restore the same file with various permissions. When this option is not set, the permission changes are updated to the backup file directly. No copies of the previous version(s) will be available for restore.

4.13 Moved Files

The [Moved Files] settings under the [Manage System] -> [Server Configuration] page defines whether AhsayOBS should make a copy of the file to the retention area before the file path is updated, i.e. the files is moved to another location. When this option is set, all backup accounts will use more retention space but allows the users to restore the same file with the correct location. When this option is not set, the file path changes are updated to the backed up file directly. No copies of the previous version(s) will be available for restore.

4.14 Auto User Home Allocation

The [Auto User Home Allocation] settings under the [Manage System] -> [Server Configuration] page defines the quota ratio for each user home. AhsayOBS will automatically select the user home to be used for auto user allocation and trial user registration based on the quota ratio. AhsayOBS will always use the first user home with a QPS ratio smaller than the value defined by the system user.

4.15 Welcome Email

The [Send welcome email to new users] settings under the [Manage System] -> [Server Configuration] page defines whether AhsayOBS should send a welcome email to new users. If this option is checked, it will send an email to the new users.

The [Include encrypted password in welcome email] settings under the [Manage System] -> [Server Configuration] page defines whether AhsayOBS should include the encrypted password in the welcome email. When this option is checked, the encrypted password will send with the welcome email to the new users.

4.16 Free Trial Setting

The [Enable Free Trial Registration] settings under the [Manage System] -> [Server Configuration] page defines various free trial settings available in AhsayOBS.

Trial users do not count towards the maximum number of users allowed within AhsayOBS by the software license and there can be unlimited number of trial users within AhsayOBS. However, each backup user can have a maximum backup quota of 100GB for a trial period of 30 days. After

expiration of the trial period, the backup quota will reset to a maximum of 500MB automatically.

To allow users to create a trial backup account from AhsayOBM or AhsayACB, please enable the [Enable Free Trial Registration] option. If this feature is unchecked, the option to register for a trial account (see below) will not be available to end users.

The [Backup Quota] defines the maximum backup quota of trial backup accounts upon registration.

The [Add-on Modules] option defines whether you want to allow trial users to have different add-on modules.

The [Remove User] option defines whether you want to remove trial backup users for certain number of days after registration. For example, you can use this option to tell AhsayOBS to remove trial backup users from the system automatically after backup users have registered for 60 days.

4.17   Use Windows Event Log

For AhsayOBS installations on Microsoft Windows platform which have the "Windows Event Log" service enabled. When this feature is selected all AhsayOBS system log information, i.e. error, warning, and information message types will be also be written to the Windows event logs. The backup

server administrator's can view the logs entires using the Windows event viewer. The event log name is limited to 8 characters.

The ID for each message type is shown in the following table.

Type	ID
Information	201
Warning	305
Error	409

4.18   Configuration Recovery

AhsayOBS Configuration Recovery feature available from AhsayOBS v6.7.0.0 onwards. It is designed to faciliate a quick and simple recovery of an AhsayOBS server after an outage, to ensure minimum down time of backup service.   By allowing the backup server administrator to install a new AhsayOBS instance on another machine, using the backed up AhsayOBS server configuration downloaded from the Ahsay License Server (ALS).

In order to backup AhsayOBS server configuration files the backup server administrator, can schedule daily Configuration Archival backups of critical AhsayOBS server configuration files to the ALS, e.g. system configuration files in the %OBS_HOME%\CONF folder, Policy Home and User Home folders.

The Configuration Archival feature is available to AhsayOBS servers using paid license keys (including keys generated from License Management Portal) and with a valid "Free Upgrade Until" date. **This feature is disabled for AhsayOBS servers using evaluation license keys.**

4.18.1 Setup

The AhsayOBS Configuration Recovery feature is disabled by default. To enable this feature go to the server configuration page [Manage System] -> [Routine Job] -> [System Job] -> [Configuration Archival] and select "Enable" and press the [Update] button. The default AhsayOBS configuration backup time is at 12:30 PM.

Cyclic Redundancy Check (CRC) Checking	:	Enable Disable	Monthly at 00 : 00 (HH:MM) At the 2nd and 4th Saturdays of every month Force to check all backup files
Configuration Archival	:	Enable Disable	Daily at 12 : 30 (HH:MM)
		Update Reset	

For AhsayOBS servers using evaluation license keys or where the "Free Upgrade Until" date has already expired, this option will be automatically disabled until license key maintenance is renewed.

Cyclic Redundancy Check (CRC) Checking	:	Enable Disable	Monthly at 00 : 00 (HH:MM) At the 2nd and 4th Saturdays of every month Force to check all backup files
Configuration Archival	:	Enable Disable	Daily at 12 : 30 (HH:MM)
		Update Reset	

For license keys where the "Free Upgrade Until" has expired, the configuration files which have been previously uploaded to ALS are still available for restore via the Configuration Recovery feature.

4.18.2 AhsayOBS Configuration Files

The following is a list of critical AhsayOBS configuration files which are backed up to the ALS by the daily Configuration Archival backup job.

CONF folder	\%OBS_HOME%\conf\	acb-config.xml, afc.opt, autoDiscovery.xml, autoUpdate.bdb, debug.props, keystore, lfsConfig.xml, license.xml, obs.xml, obsr.opt, rps.xml, rpsLicense.xml, rpsRecv.xml, rpsSend.xml, server.xml
POLICY HOME	\%PolicyHome%\	policyGroup.xml, sysUser.xml, userGroup.xml, AcbGlobalFilter\db\Profile.xml, defaultAcbUser\db\Profile.xml,

		defaultUser\db\Profile.xml, ObmGlobalFilter\db\Profile.xml
USER HOME %userhome1% %userhome2% . .	**\%User Home%**	The home folder and Profile.xml for all backup user accounts: %Userhome%\test1 %Userhome%\test1\db %Userhome%\test1\db\Profile.xml %Userhome%\test2#12345 %Userhome%\ test2#12345\db %Userhome%\ test2#12345\db\Profile.xml

4.18.3 Configuration Archival File Limits

Each Configuration Archive file is limited to 6MB after compression per an upload.

For example, a 6MB compressed file can contain configurations files from an AhsayOBS server with the following setup:

> **Number of backup user = 20000**
> **Number of system user = 150**
> **Number of user group = 500**
> **Number of policy group = 250**
> **Average number of backup sets per backup user = 10**

If after the configuration file is compressed, the file size exceeds 6MB, the Configuration Archival job will not upload the file to ALS. The exact nature of the error will be shown in the AhsayOBS system log.
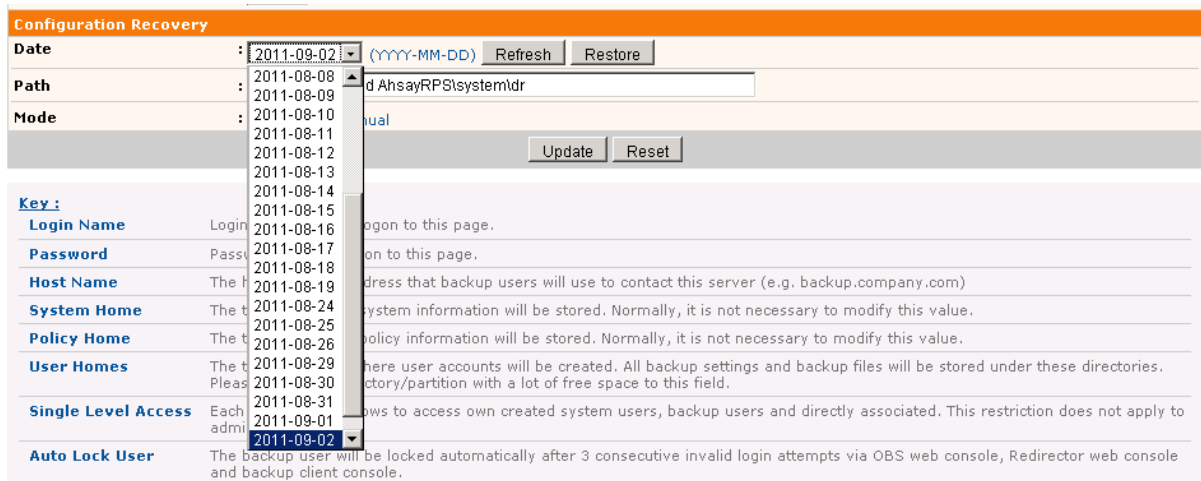
The following example shows the compressed files exceeded 6MB.

[info][system][Thread][Job][ConfigurationArchival] Starting configuration archival
[info][system][Thread][Job][ConfigurationArchival][copyFileAndCheck.checkSize] The size of 'C:\Program Files\AhsayOBS and AhsayRPS\temp\archiveTemp\conf' is/are 35KB.
[info][system][Thread][Job][ConfigurationArchival][copyFileAndCheck.checkSize] The size of 'C:\Program Files\AhsayOBS and AhsayRPS\temp\archiveTemp\policy' is/are 350KB.
[info][system][Thread][Job][ConfigurationArchival][copyFileAndCheck.checkSize] The size of 'C:\Program Files\AhsayOBS and AhsayRPS\temp\archiveTemp\C%3A\Program Files\AhsayOBS and AhsayRPS\user' is/are 64981KB.
[info][system][Thread][Job][ConfigurationArchival][gzipFile.checkSize] The size of 'C:\Program Files\AhsayOBS and AhsayRPS\temp\dr-2013-02-15.zip.gz' is/are 64958KB.
[error][system][Thread][Job][ConfigurationArchival] [gzipFile.checkSize] The size of 'C:\Program Files\AhsayOBS and AhsayRPS\temp\dr-2013-02-15.zip.gz' is too large.
[gzipFile.checkSize] The size of 'C:\Program Files\AhsayOBS and AhsayRPS\temp\dr-2013-02-15.zip.gz' is too large.
[info][system][Thread][Job][ConfigurationArchival] Finished configuration archival

4.18.4 Configuration Archival Storage Retention

The ALS allows each license key to store a maximum of 30 days of configuration file backups at any one time. When the Configuration Archival backup job uploads the configuration file on the 31st day, the ALS will immediately delete the existing configuration file uploaded on the 1st day and so forth.

To check how many backup "snapshots" are available on the ALS, on the AhsayOBS web console go to [Manage System] -> [Server Configuration] -> [Configuration Recovery]. Click on the [Refresh] button and select the "Date" combo box.

WARNING:

ALS will only keep one snapshot of the Configuration Archive backup file per day. If there are more than one Configuration Archive backup jobs are run within a 24 hour period, ALS will only keep a copy of the latest snaphot.

4.18.5 Backup Process

Once the Configuration Archival system job is enabled and the daily backup time configured. AhsayOBS will automatically perform a backup of the configurations files to the ALS.

For each Configuration Archival backup job:

1. The AhsayOBS configuration files are copied to the %OBS_HOME%\temp folder.
2. The files are compressed and encrypted using an AES 256bit encryption algorithm.

3. The compressed file is renamed according to the following format ***dr-YYYY-MM-DD.zip.gz*** and AhsayOBS uploads the file to ALS using https protocol.

4. After a successful backup the ***dr-YYYY-MM-DD.zip.gz*** file is then removed from the %OBS_HOME%\temp folder.

WARNING:

The encryption key used by AhsayOBS to encrypt the configuration file is a <u>secret key</u> and cannot be changed by the backup server administrator.

Once the AhsayOBS configuration files are uploaded to ALS, the backup server administrator cannot manually remove these files from ALS.
The Configuration Archival backup job statuses are recorded in the AhsayOBS system log.

When a Configuration Archival backup job has completed successfully, the following messages will be shown in the AhsayOBS system log:

```
[info][system] User Module Job ending.
[info][system][Thread][Job][ConfigurationArchival] Starting configuration archival
[info][system][Thread][Job][ConfigurationArchival] Finished configuration archival
[info][system][Thread][Job][SystemCleanup]Starting system cleanup
[info][system][Thread][Job][SystemCleanup]Start: System Cleanup
[info][system][Thread][Job][SystemCleanup][PendingEmailCacheCleaning]Start: System Cleanup:
Removing obsolete pending backup job report
```

To verify the current backup of configuration files are available on the ALS, on the AhsayOBS web console go to [Manage System] -> [Server Configuration] -> [Configuration Recovery]. Click on the [Refresh] button to show the latest snapshot available on the ALS.

Backup Error Handling

If the Configuration Archival backup job encounters any connection issues to the ALS, AhsayOBS will attempt to reconnect to the ALS again upload the configurations file after 15 minutes.

The following messages will be shown in the AhsayOBS system log:

```
[info][system][Thread][Job][ConfigurationArchival] Starting configuration archival
[error][system][Thread][Job][ConfigurationArchival] [Http.UnableToConnectExpt]
[Http.SocketPack.getNewSocket] Unable to connect to sHostname='lic.ahsay.com'
sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort='' sProxyUser='' sProxyPwd=''
[Http.UnableToConnectExpt] [Http.SocketPack.getNewSocket] Unable to connect to
sHostname='lic.ahsay.com' sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort=''
sProxyUser='' sProxyPwd=''
```

In total AhsayOBS will retry three times in 15 minute intervals to establish a connection to ALS before the backup job is aborted.

First Retry

```
[info][system]main Starting update LDAP user
[info][system][Thread][Job][ConfigurationArchival] Connect to license server 1 time(s) (1 out of 3
retry )
[error][system][Thread][Job][ConfigurationArchival] [Http.UnableToConnectExpt]
[Http.SocketPack.getNewSocket] Unable to connect to sHostname='lic.ahsay.com'
sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort='' sProxyUser='' sProxyPwd=''
[Http.UnableToConnectExpt] [Http.SocketPack.getNewSocket] Unable to connect to
sHostname='lic.ahsay.com' sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort=''
sProxyUser='' sProxyPwd=''
```

Second Retry

```
[info][system][Thread][Job][SettingChangeReport]End: Sending setting change report job
[info][system][Thread][Job][ConfigurationArchival] Connect to license server 2 time(s) (2 out of 3
retry )
[info][system][Thread][Job][SystemCleanup]Starting system cleanup
[info][system][Thread][Job][SystemCleanup]Start: System Cleanup
[info][system][Thread][Job][SystemCleanup][PendingEmailCacheCleaning]Start: System Cleanup:
Removing obsolete pending backup job report
[info][system][Thread][Job][SystemCleanup][PendingEmailCacheCleaning]End: System Cleanup:
Removing obsolete pending backup job report
[info][system][Thread][Job][SystemCleanup]End: System Cleanup
[error][system][Thread][Job][ConfigurationArchival] [Http.UnableToConnectExpt]
[Http.SocketPack.getNewSocket] Unable to connect to sHostname='lic.ahsay.com'
sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort='' sProxyUser='' sProxyPwd=''
[Http.UnableToConnectExpt] [Http.SocketPack.getNewSocket] Unable to connect to
sHostname='lic.ahsay.com' sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort=''
sProxyUser='' sProxyPwd=''
```
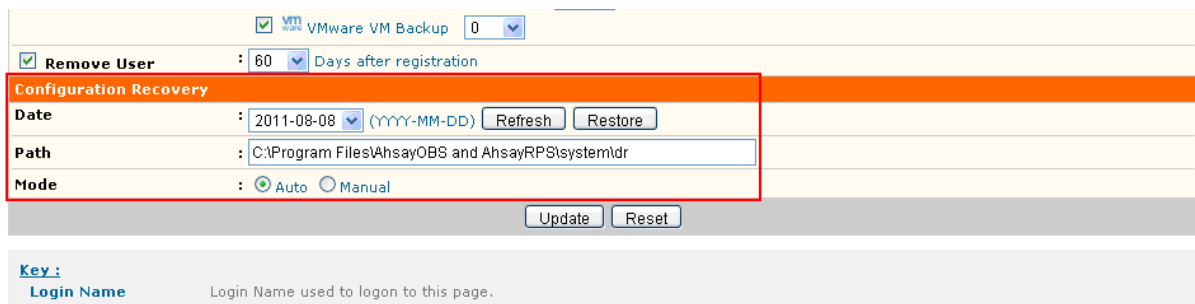
Third Retry

```
[info][system][Thread][Job][SystemCleanup]End: System Cleanup
[info][system][Thread][Job][ConfigurationArchival] Connect to license server 3 time(s) (3 out of 3
retry )
[error][system][Thread][Job][ConfigurationArchival] [Http.UnableToConnectExpt]
[Http.SocketPack.getNewSocket] Unable to connect to sHostname='lic.ahsay.com'
sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort='' sProxyUser='' sProxyPwd=''
[Http.UnableToConnectExpt] [Http.SocketPack.getNewSocket] Unable to connect to
sHostname='lic.ahsay.com' sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort=''
sProxyUser='' sProxyPwd=''
[error][system][Thread][Job][ConfigurationArchival] [RefreshArchivalDateList.getArchivalDates]
[Http.UnableToConnectExpt] [Http.SocketPack.getNewSocket] Unable to connect to
sHostname='lic.ahsay.com' sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort=''
sProxyUser='' sProxyPwd=''
[RefreshArchivalDateList.getArchivalDates] [Http.UnableToConnectExpt]
[Http.SocketPack.getNewSocket] Unable to connect to sHostname='lic.ahsay.com'
sHostIP='44.44.44.44' port='443' type='NS' sProxyHost='' sProxyPort='' sProxyUser='' sProxyPwd=''
[info][system][Thread][Job][ConfigurationArchival] Finished configuration archival
```

If the Configuration Archival backup job does not successfully upload the configuration file to ALS after the third retry, the backup job for the current day will end. AhsayOBS will run the Configuration Archival backup job again on the following day at the scheduled time

4.18.6 Restoring Configuration Files

To restore the configurations files from ALS to AhsayOBS, open the web management console and go to the server configuration page [Manage System] -> [Server Configuration] -> [Configuration Recovery].

The [Path] is the destination path where the restored configuration files will be saved on the AhsayOBS server. After the configuration file is restored from the ALS, when Configuration Recovery is perfomed using "Manual" mode. The default setting for the [Path] is *%OBS_HOME%\SYSTEM_HOME\dr*.

The AhsayOBS server configuration can be restored from ALS by:

1. Clicking the [Refresh] button to obtain a list of the configuration file snapshots stored on the ALS.

2. Use the [Date] option, to select the configuration file snapshot to be restored.

3. Select the recovery mode in the [Mode] option.

   i. If "Auto" mode is selected, AhsayOBS will download the selected configuration file snapshot from ALS. It will be automatically decrypted and copied to their original locations, only if the AhsayOBS user home(s) are empty.

   ii. If "Manual" mode is selected, the configuration files will be decrypted and downloaded to the destination path. The restored files will have to be manually copied to new AhsayOBS user home(s).

4. Click [Restore] button to execute the configuration recovery process.

5. The restored AhsayOBS configuration settings will take effect after the AhsayOBS service is restarted.

When a Configuration Recovery has been performed successfully, the following messages will be shown in the AhsayOBS system log:

```
[info][www][System][Logon] admin "system" logged on successfully. IP=127.0.0.1
session=04C9D6148379DFF7354EC57B6973118D
[info][system] Starting configuration recovery
[info][system] Finished configuration recovery
```

WARNING:

i. The Configuration Recovery feature does not support recovery of AhsayOBS system configuration on a cross O/S platform environment, i.e. configuration files from a Windows AhsayOBS cannot be recovered to a Linux/FreeBSD/Solaris AhsayOBS vice versa.

ii. To perform a Configuration Recovery to a new AhsayOBS installation the license key from the original AhsayOBS server must be applied.

iii. The new AhsayOBS server must be able to connect to the Ahsay License Server (ALS) in order to perform a Configuration Recovery.

5 Software License

This chapter describes how you can use the [Manage System] -> [Software License] page (shown below) to manage software license of AhsayOBS.

Key	Description
License Name	Business name of the licensee
License Key	License Key to activate this software. Please enter [License Key] as a printed on the [Software License Agreement] into the text field provided.
Connection Test	Test the connection between AhsayOBS and license server.
Company Name	The company name used for contact.
Contact Name	The name of the contact person.
Contact Email	The email address of the contact person.
Contact Number	The phone number of the contact person.
AhsayOBM	The maximum number of the AhsayOBM backup account allowed. The following may be displayed when there are some special arrangement on your AhsayOBM license CAL: (⊙ number) - The number in the round bracket is the quota of AhsayOBM used by the AhsayACB. (⊞Ex number) - The number in the round bracket is the quota used by Microsoft Exchange Server Database Availability Group One AhsayOBM license CAL with one Exchange Server Add-on Module is deducted from each installation of the AhsayOBM on the DAG environment.
AhsayACB	The maximum number of the AhsayACB backup accounts allowed.
User Add-on Modules	It shows whether different client side add-on modules are enabled for AhsayOBM/AhsayACB. You need to have a new license key to enable these modules. Quota – the total number of licenses of a particular module available. Used – the total number of licenses of a particular module assigned to users. Available – the total number of license of a particular module available for future use.
Server Add-on Modules	It shows whether different server side add-on modules are enabled for AhsayOBS/AhsayRPS. You need to have a new

	license key to enable these modules.
Product Name	Name of the licensed product.
Product Version	Version number of the licensed product.
Expiry Date	The date when the current license key will expire. You will not be able to use AhsayOBS after this date.
Free Upgrade Until	The last date you are allowed to upgrade to the latest AhsayOBS available. You will not be able to upgrade to any software release after this date with your current license key.
Max Quota	The maximum quota for each backup user supported.

5.1 Licensee Name and License Key

When you click the [Manage System] -> [Software License] link available at the top menu, the [Software License] panel will appear (see above). You can use the form available on this panel to activate the software.

Please remember the following notes when you enter your licensee name and your license key:

- Both [Licensee Name] and [License Key] are case sensitive and they must be entered EXACTLY as stated in your software receipt. If possible, please use copy and paste shortcuts (CTRL-C and CTRL-V) to enter both the [Licensee Name] and [License Key] into the field provided to avoid typo error.
- There is a connection test button underneath the license field entry box to test the connection to our license server. The testing result will be displayed next to the test button.
- The AhsayOBS server is required to access internet and connect our license server lic.ahsay.com using the https protocol. Please ensure firewall settings is enabled and the TLSv1 setting is allowed.
- If a proxy server is required to access the Internet from AhsayOBS, please setup the [proxy setting] in the [Manager Server] page. Access to the Internet is required because the license key must be activated by our license server before it is usable.
- If internet connection is not available in your environment, you can use the offline activation method to activate your license.
- One license key can only be used on one machine once it has been activated. If you use the same license key to activate another copy of AhsayOBS on another server, you will get an "Internal Error 1011" or "Internal Error 1012" message. You can still run this copy of AhsayOBS for another 7 days without any problems but it will stop working after this grace period. Please contact us to re-activate your license key if you run into this situation.
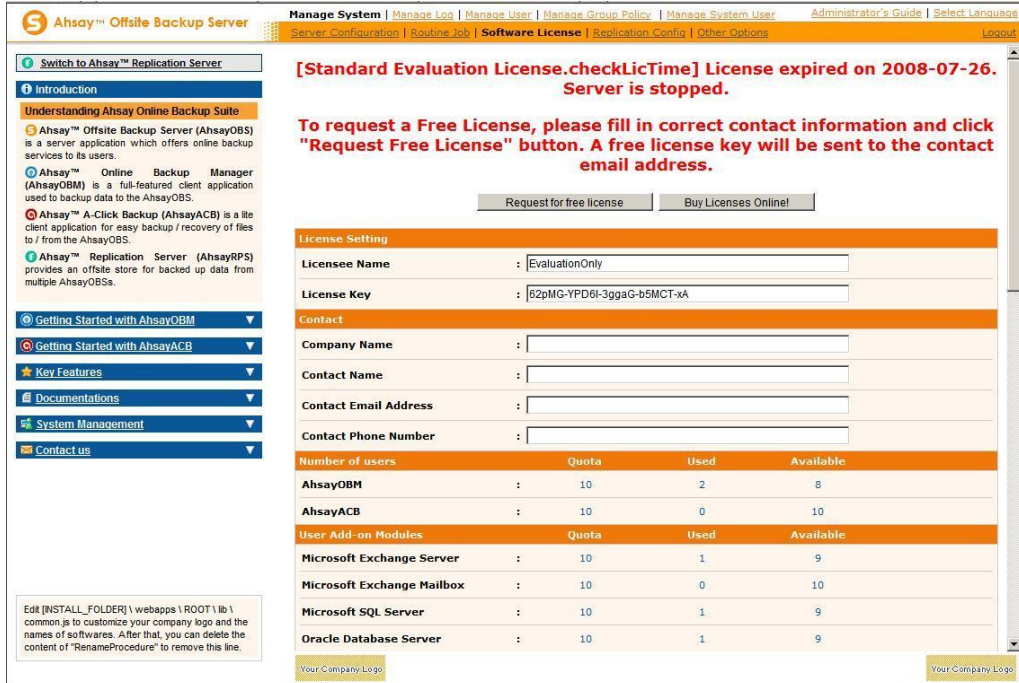
5.2 Automatic License Renewal

If AhsayOBS is under a monthly leasing plan, the license key will have an expiry date of 30 days. Upon expiration, the license key will be renewed automatically.

In the event of any problems during the license renewal process, i.e. AhsayOBS is not able to connect to the Ahsay License server. The expired license key will have a grace period of 14 days. AhsayOBS can still function normally using the expired license for an extra 14 days before the service is automaticially shutdown. The 14 day grace period is to allow sufficient time to resolve any license related problems.

5.3 Evaluation Expiry and Free Edition

After the evaluation period, the evaluation key will expire and the AhsayOBS will automatically be stopped. Although the service will still be alive, AhsayOBM and AhsayACB cannot do backups anymore. You should get the following screen when it happens:

If you want to continue using AhsayOBS, you can press the [Buy Licenses Online] button to purchase new licenses or contact our Sales Team via our Ahsay Forum.

However, if you have not yet decided to purchase our product, you are welcome to apply for a free license. To apply for a free license, please input all contact details (including [Company Name], [Contact Name], [Contact Email Address], [Contact Phone Number]), and then press the [Request for free license] button. An email will be sent to your email account in a short time.

Within the email, you will have the licensee name and license key received. Copy and paste the values to the fields on the page of [Manage System] -> [Software License] respectively. After that, press the [Update] button at the end of the page. Then you should be able to continue to use AhsayOBS.

If you have created some backup users in AhsayOBS before, you may get the following message on the license page:

The system prompts that the quota is exceeded, because generally free version of AhsayOBS has more limitations on number of users, modules and features than evaluation version. When it changes to Free Edition, the extra users will be suspended and the user accounts will stop functioning. Users to be suspended are chosen randomly. We would recommend that you should remove/suspend the extra users before switching to Free Edition.

After you have purchased a new license, you can apply the licensee name and license key as described in previous sections. You can then re-activate the users by using the tools in [Manage User]. For more information on [Managing User], please refer to the section of Managing User in this document.

5.4 Offline License Activation

Offline License Activation is a new feature added to AhsayOBS since v5.5.7.0. It is used to activate the AhsayOBS license for servers that do not have internet connection.

In order to use the offline license activation, you must first install AhsayOBS v5.5.7.0 or above.

After you have finished installing the AhsayOBS, please open the web management console and go to the license page ([Manage System] -> [Software License]). On that page, you should be able to see the [Advanced Option] link near the bottom right hand corned. Please click on that link to display the offline license options.

The offline license options should now be shown on the screen. The next step in the offline license activation process is to generate an offline license request file. This file is an encrypted file that contains all the information required for the activation process, e.g. MAC address and local IP address. To generate the offline license request file, please press the [Generate] button under the [Advanced Option] under of the license page. The offline license request file will then be generated and it will prompt for the location to save the offline license request file.
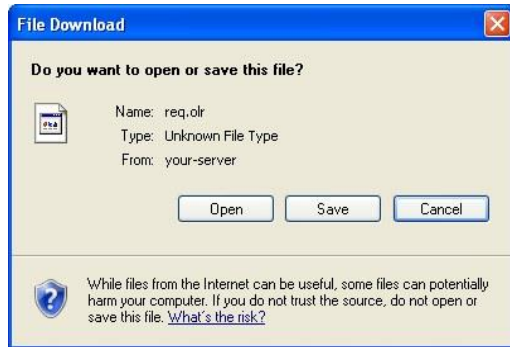
When the offline license request file is ready, please send it to our Support team via email. An offline license file will then be generated and sent back to you. The offline license file is the license file used in the offline license activation process.

After you have received the offline license file, you would need to import it to the AhsayOBS to complete the offline activation process. Before importing the offline license files to AhsayOBS, you must ensure that it is placed in the system home folder of AhsayOBS. Then, you should logon to the AhsayOBS web interface to import the license from the [Software License] page (i.e. [Manage System] -> [Software License]) and click on the [Advanced Option] link. Press on the [Browse] button and select the offline license file from AhsayOBS system home. Click on the [Offline Update] button to complete the process. If there is no error message shown on the [Software License] page, the Offline License Activation process is completed successfully.
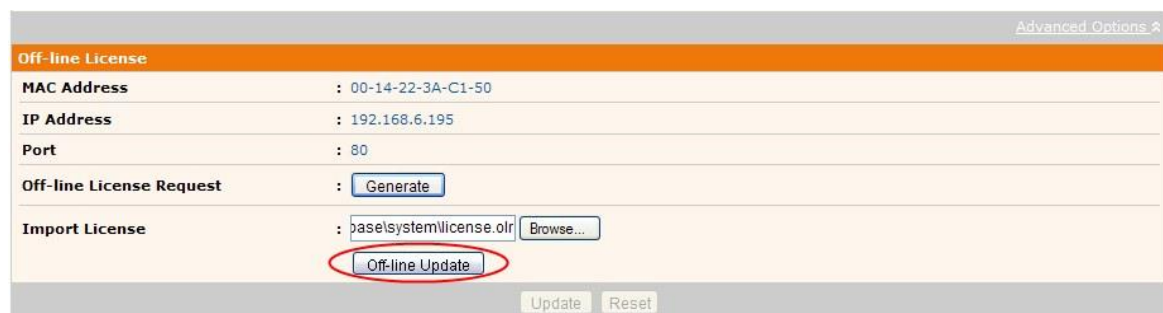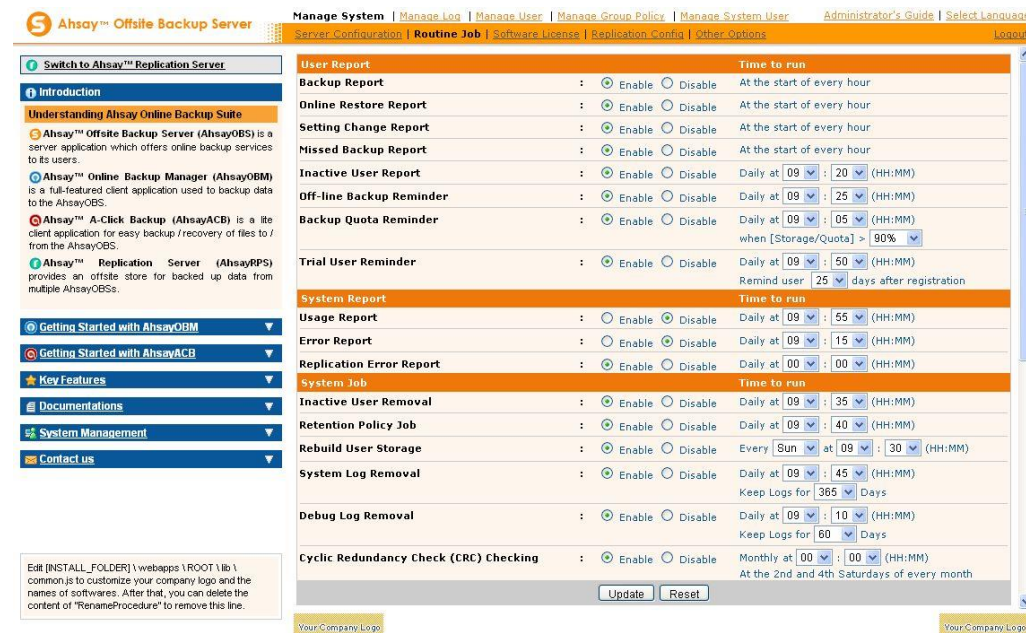
5.5 License Management Portal

The License Management Portal is an online license management tool. It provides a convenient method for partners to manage their AhsayOBS license keys online. For more information on this feature, please refer to the online documentation on the License Management Portal.

6 Managing Routine Job

This chapter describes how you can use the [Manage System] -> [Routine Job] page (shown below) to manage number of system routine jobs of AhsayOBS. When you click the [Manage System] -> [Routine Jobs] link available at the top menu, the [Routine Jobs] panel will appear. You can use the form available on this panel to define your preferences of how you want different system routine jobs to run.

Key	Description
Backup Report	Hourly job sending backup reports to users whose backup job have completed within the last hour.
Online Restore Report	Hourly job sending online file restoration reports to users who have performed and completed an online file restoration action within the last hour.
Setting Change Report	Hourly job sending setting change reports to users who have updated their backup setting within the last hour.
Missed Backup Report	Hourly job checking whether any scheduled backup job has been missed for all backup users and sending missed backup reports to users who have missed their backup jobs.
Inactive User Report	Daily job sending inactive user reports to users if their accounts have been inactive for more than 7 days.

Off-line Backup Reminder	Daily job sending off-line backup reminders to users who have set the off-line backup option and have not performed a backup for the required number of days.
Backup Quota Reminder	Daily job sending backup quota reminders to users whose storage quotas are above a certain percentage.
Trial user Reminder	Daily job sending trial user reminders to users whose trial account are about to expire.
Usage Report	Daily job sending system usage reports to system administrators.
Error Report	Daily job sending system error reports to system administrators.
Replication Error Report	Daily job sending replication error reports to system administrators
Inactive User Removal	Daily job deleting all trial accounts that have been inactive for 60 days.
Retention Policy Job	Daily job removing obsolete files from the retention area according to each user's retention policy setting.
Rebuild User Storage	Weekly job rebuilding all users' storage information by walking through all users' backup files.
System Log Removal	Daily job removing system logs older than this number of days from the system.
Debug Log Removal	Daily job removing debugging logs older than this number of days from the system.
Cyclic Redundancy Check (CRC) Checking	Routine job that will run at 2nd and 4th Saturdays of every month. It will verify the CRC of the files backed up to the server.
Force to check all backup files	If selected the CRC job will check all backup files regardless of last checked date.
Configuration Archival	Daily job sending system settings, policies and user profiles to a secure remote storage.

Note:

It is strongly recommended you enable the CRC checking so that regular file integrity checks are made on the backup data files.

6.1 Backup Report

The [User Report] -> [Backup Report] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Backup Report] routine job. The role of the [Backup Report] routine job is to send backup reports to users who have finished one of their backup jobs within the last hour. The backup report is scheduled to run every 57 minutes past the hour.

If you want your users to receive these reports, please select the [Enable] option. Otherwise, select the [Disable] option.

6.2 Online Restore Report

The [User Report] -> [Online Restore Report] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Online Restore Report] routine job. The role of the [Online Restore Report] routine job is to send online file restoration reports out to users who have performed and completed an online file restoration action within the last hour. The online restore report is scheduled to run every 58 minutes past the hour.

If you want your users to receive these reports, please select the [Enable] option. Otherwise, select the [Disable] option.

6.3 Setting Change Report

The [User Report] -> [Setting Change Report] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Setting Change Report] routine job. The role of the [Setting Change Report] routine job is to send reports out to users who have updated their profiles or backup set within the last hour. The setting change report is scheduled to run every 59 minutes past the hour.

If you want your users to receive these reports, please select the [Enable] option. Otherwise, select the [Disable] option.

6.4 Missed Backup Report

The [User Report] -> [Missed Backup Report] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Missed Backup Report] routine job. The role of the [Missed Backup Report] routine job is to send reminder notice to users who have missed one of their scheduled backup jobs. AhsayOBS defines a scheduled backup job to be a missed backup job if there is no backup run 6 hours after a backup has been scheduled. The missed report is scheduled to run every 56 minutes past the hour.

If you want your users to receive these reports, please select the [Enable] option. Otherwise, select the [Disable] option.

6.5 Inactive User Report

The [User Report] -> [Inactive User Report] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Inactive User Report] routine job. The role of the [Inactive User Report] routine job is to send a reminder notice to users who have been inactive on the system.

This job will run daily as defined by the [Daily at] setting, the default start time is 09:20 AM. If you want your users to receive these reports, please select the [Enable] option. Otherwise, select the [Disable] option.

6.6 Off-line Backup Reminder

The [User Report] -> [Off-line Backup Reminder] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Off-line Backup Reminder] routine job. The role of the [Off-line Backup Reminder] routine job is to send a reminder notice to users who have set the off-line backup option in their backup sets but failed to backup for a certain amount of time.

This job will run daily as defined by the [Daily at] setting, the default start time is 09:25 AM. If you want your users to receive these reports, please select the [Enable] option. Otherwise, select the [Disable] option.

6.7 Backup Quota Reminder

The [User Report] -> [Backup Quota Reminder] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Backup Quota Reminder] routine job. The role of the [Backup Quota Reminder] routine job is to send a reminder notice to users whose storage quota usage has hit a pre-defined percentage, the default quota usage setting is more than 90%.

This job will run daily as defined by the [Daily at] setting, the default start time is 09:05 AM. If you want your users to receive these reports, please select the [Enable] option. Otherwise, select the [Disable] option. Please also set the pre-defined percentage of storage divided by quota that will trigger this reminder.

6.8 Trial User Reminder

The [User Report] -> [Trial User Reminder] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Trial User Reminder] routine job. The role of the [Trial User Reminder] routine job is to send a reminder notice to users whose trial accounts that their account will expire. The default setting is to send reminder reports 25 days after trial account registration.

This job will run daily as defined by the [Daily at] setting, the default start time is 09:50 AM. If you want your users to receive these reports, please select the [Enable] option. Otherwise, select the [Disable] option. Please also set the number of days after registration that the users should get this reminder.

6.9 Usage Report

The [System Report] -> [Usage Report] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Usage Report] routine job. The role of the [Usage Report] routine job is to send usage report, which contains a statistics of all backup users' activities, to the administrative contacts of AhsayOBS.

This job will run daily as defined by the [Daily at] setting, the default start time is 09:55 AM. If you want the administrative contacts of AhsayOBS to receive the usage report, please select the [Enable] option. Otherwise, select the [Disable] option.

6.10 Error Report

The [System Report] -> [Error Report] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Error Report] routine job. The role of the [Error Report] routine job is to send error report, which contains a full listing of all system and backup errors, to the administrative contacts of AhsayOBS.

This job will run daily as defined by the [Daily at] setting, the default start time is 09:15 AM. If you want the administrative contacts of AhsayOBS to

receive the error report, please select the [Enable] option. Otherwise, select the [Disable] option.

6.11 Replication Error Report

The [System Job] -> [Replication Error Report] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Replication Error Report] routine job. The role of the [Replication Error Report] routine job is to send the replication error report, which contains the list of errors appear during the replication process.

This job will run daily as defined by the [Daily at] setting, the default start time is 00:00 AM. If replication is enabled on AhsayOBS and you want the administrative contacts of AhsayOBS to receive the replication error report, please select the [Enable] option. Otherwise, select the [Disable] option.

6.12 Inactive User Removal

The [System Job] -> [Inactive User Removal] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Inactive User Removal] routine job. The role of the [Inactive user Removal routine job is to remove inactive trial users (i.e. no logon or backup traffic from this user) from AhsayOBS as defined by the Free Trial Setting.

This job will run daily as defined by the [Daily at] setting, the default start time is 09:35 AM. If you want this job to run, please select the [Enable] option. Otherwise, select the [Disable] option.

6.13 Retention Policy

The [System Job] -> [Retention Policy] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Retention Policy] routine job. The role of the [Retention Policy] routine job is to delete files from the retention area for each user according to the retention policy of each backup set of each backup user.

This job will run daily as defined by the [Daily at] setting, the default start time is 09:40 AM. If you want this job to run, please select the [Enable] option. Otherwise, select the [Disable] option.

Note:
The retention policy job would retain data in accordance to the retention policy configured for the corresponding backup set. A formula is used to determine which file should be "retained" in "Days" unit, at "00:00" of each day (NOT the system routine job execution time). For a backup set with a 7

'days' retention policy, the system routine job would retain modified / deleted data of the past 7 days (oldest data being uploaded after 00:00, 7 days ago).

WARNING:

Disabling the Retention Policy job could result in:

i. User accounts exceeding there quota limits and therefore interrupting normal backup operations.

ii. AhsayOBS user home(s) drives running out of space, which could result in your AhsayOBS becoming unstable and or cause data corruption.

6.14 Rebuild User Storage

The [System Job] -> [Rebuild User Storage] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Rebuild User Storage] routine job. The role of the [Rebuild User Storage] routine job is to recalculate all users' storage information (e.g. data area file size/number, retention area file size/number) by traversing through all backup files for all users within the system.

The job is designed to run weekly and will run at the time defined by the [Every WEEKDAY at] setting, the default start time is every Sunday at 09:30 AM. If you want this job to run, please select the [Enable] option. Otherwise, select the [Disable] option.

Note:

i. **As the Rebuild User Storage job is relatively I/O intensive job, it is recommended to schedule this job to run during off peak periods.**

ii. **When a rebuild user storage is run on a user account with active backupsets, the calculations for the storages statistics may not reflect the actual storage used as all active backupsets are skipped.**

6.15 System Log Removal

The [System Job] -> [System Log Removal] setting under the [Manage System] -> [Routine Job] page defines the setting of the [System Log Removal] routine job. The role of the [System Log Removal] routine job is to remove all system logs (i.e. all information under the System Home, e.g. system error logs or backup error logs) from AhsayOBS after the [Keep Logs For] number of days.

This job is designed to run daily and will run at the time defined by the [Daily at] setting, the default start time is 09:45 AM. If you want this job to run, please select the [Enable] option. Otherwise, select the [Disable] option.

6.16   Debug Log Removal

The [System Job] -> [Debug Log Removal] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Debug Log Removal] routine job. The role of the [Debug Log Removal] routine job is to remove all debugging logs (e.g. access logs and web application context logs) from AhsayOBS after the [Keep Logs for] number of days.

This job is designed to run daily and will run at the time defined by the [Daily at] setting, the default start time is 09:10 AM. If you want this job to run, please select the [Enable] option. Otherwise, select the [Disable] option.

6.17   Cyclic Redundancy Check (CRC) Checking

The [System Job] -> [Cyclic Redundancy Check (CRC) Checking] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Cyclic Redundancy Check (CRC) Checking] routine job.

The role of this routine job is to check the CRC of the backup files on every 2nd and 4th Saturdays every month, the default start time is 12:00 AM.

The "Cyclic Redundancy Check (CRC) Checking" job will check all new files on AhsayOBS. When the CRC job checks a file it will update the file header with an 'AhsayOBS CRC next check date'. This is calculated as 180 + (random number of 0 to 60) days, so for existing files which have been checked previously. The next CRC check on the file will be performed after 180 to 240 days.

During this checking, it will check the followings things:

- The file size of the backup file with the size stored in the header of backup file.
- The CRC value of the backup file with the checksum value stored in the header of the backup file.

Files will be deleted if it is found to be invalid or corrupted in the retained area and current folder. Other affected files in the delta chain may also be deleted.

To configure the "Cyclic Redundancy Check (CRC) Checking" job to validate all files regardless of the last checked date, please check the [Force to check all backup files] option.

WARNING:

Using the [Force to check all backup files] option could result in performance issues with your AhsayOBS server. This option may impact on backup and restore performance.

6.18 Configuration Archival

The [System Job] -> [Configuration Archival] setting under the [Manage System] -> [Routine Job] page defines the setting of the [Configuration Archival] routine job. The role of the [Configuration Archival] routine job is to backup critical AhsayOBS configuration files (e.g. CONF folder, Policy Home and User Home) and upload them to the Ahsay License Server (ALS). At most 30 days of configuration files will be kept on the ALS.

This job is designed to run daily and will run at the time defined by the [Daily at] setting, the default start time is 12:30 PM. This job is disabled by default.
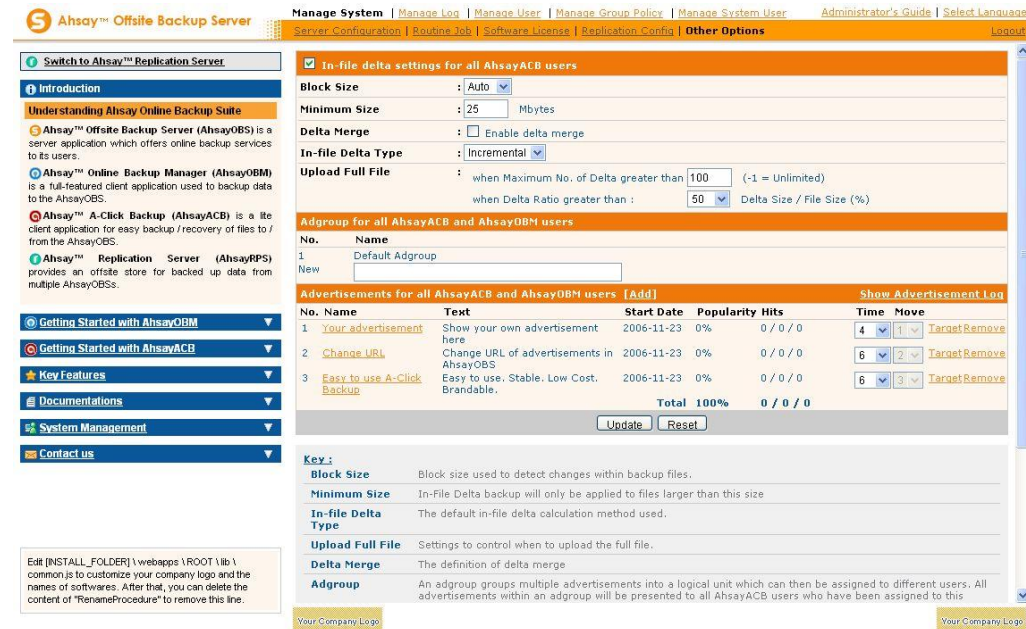
7   Managing Replication

The replication module is managed by the [Manage System] -> [Replication Config] page. For more information about this feature, please refer to the Ahsay Replication Server Administrator's Guide.

Also, please refer to the AhsayOBS and AhsayRPS Setup Guide for information on how to install the AhsayRPS to work with AhsayOBS.

8   Managing Other Options

This chapter describes how you can use the [Manage System] -> [Other options] page (shown below) to manage the advertisements for all users and default In-File delta setting for AhsayACB users.

Key	Description
In-file delta setting	Select this option to enable and use in-file delta technology for all AhsayACB clients.
Block Size	The in-file delta block size used to detect changes within a file. A smaller block size should produce a smaller delta file but requires more processing power. The default setting of [Auto] will choose the optimal block size for each file based on the file's original file size.
Minimum Size	The minimum size setting defines the smallest file size to apply the in-file delta.
Delta Merge	To enable delta merging on all users.
In-File Delta Type	The In-File delta type to use for calculating the delta file: • Incremental – this option uses the previous uploaded full or incremental file to calculate the delta. It produces the smallest delta for upload but requires the most time and processor power to restore. • Differential – this option always uses the latest uploaded full file to calculate the delta. It

	produces a larger delta but allows for the fastest restore. •
Upload Full File	The upload full file setting determines when the full file should be uploaded to the server instead of the delta. It depends on either of the following rules being true: • Maximum No. of Delta – the total number of deltas uploaded since the last full file. The default setting is 100 deltas. • Delta Ratio – the ratio of the Delta Size divided by the Full file size. The default setting is 50%.
Adgroup for all AhsayACB and AhsayOBM users	An adgroup groups multiple advertisements into a logical unit which can then be assigned to different users. All advertisements within an adgroup will be presented to all users who have been assigned to this adgroup.
Advertisements	Click the [Add] link to add new advertisements.

Note: The compression type option for AhsayACB is not configurable, new AhsayACB users created with AhsayOBS version 6.9 or above will use the "Fast" compression setting for default. Fast compression has less compression ratio, the size of the backup should be larger than those pre-existing AhsayACB users with same amount of backup data. Pre-existing AhsayACB customers will use normal compression settings.

8.1 In-File Delta Settings for all AhsayACB users

The [In-File delta settings for all AhsayACB users setting under the [Manage System] -> [Other Options] page defines a global setting of In-File Delta Technology for all AhsayACB clients. Select this option to enable In-File Delta Technology for AhsayACB clients.

8.2 Block Size

The [Block Size] setting defines the size of data block being used to detect changes between the last full backup file and the file being backed up. In general, the smaller the block size, the more likely a matched data block can be found, hence produces a smaller delta file but will require more processing power to detect these changes. On the other hand, In-File delta backup running with a larger block size will run faster but this will generally produce a larger delta file.

The default setting [Auto] will select the optimal block size for each file depending on the size of the file. The [Auto] setting will set the block size according the following criteria:

File Size	Block Size
< 2 GB	4 KB
2 GB to 8 GB	8 KB
> 8 GB	16 KB

8.3 Minimum Size

The [Minimum Size] setting defines the smallest file size a file (the default value is 25 MB) must have before the use and application of in-file delta backup technology.

If the size of a file being backed up is smaller than the [Minimum File Size] setting, in-file delta backup technology won't be applied to this file and the whole file, instead of just the delta file, will be uploaded to the backup server. For backupsets which contain relatively small files, the [Minimum Size] should be increased. As it is not necessary to perform in-file delta backup on small files because backing up the full file doesn't take too long anyway. The advantage of backing up the full file is it will reduce the amount of time required to restore, i.e. the restore of one small full file is much quicker than the restore a small file with associated incremental delta's.

8.4 Delta Merge

The [Delta Merge] setting under the [Manage System] -> [Other Options] page defines a global setting of delta merging for all AhsayACB clients. This setting is disabled by default. If delta merge is enabled, it is recommended to use the in-file delta type "Incremental".

WARNING:

When the delta merge option is enabled and the in-file delta type "Differential" is selected. The Delta merge feature will not merge differential delta files with the full file. <u>Delta merge will only work if there are pre-exisitng incremental delta files in the delta chain. Once the incremental delta's are merged, the delta merge feature will no longer merge files in the delta chain.</u>

8.5 In-File Delta Type

The [In-file Delta Type] setting defines the way In-File Delta files are handled. There are two different versions as follows:

Incremental In-File Delta

All delta files are generated with respect to changes made since the last incremental backup. This means that the last full backup file and all related incremental delta backup files are required to restore the latest snapshot of a backup file.

The full backup file, its checksum file and all incremental delta files are always stored in the data area. This means that these files are not affected by the setting of the retention policy and will always be kept on the backup server. But for backupsets with delta merge enabled, the retention policy setting is also used by the delta merge feature to determine when AhsayOBS will merge the full and incremental delta files into a new full file.
Differential In-File Delta

All differential delta files are generated with respect to changes made since the last full backup file. This means that only the last full backup file and the last differential delta file are required to restore the latest snapshot of a backup file. The other intermediate differential delta files are only required if you want to restore intermediate snapshots of a backup file.

The advantage of a differential In-File delta backup is that a corrupted differential delta file would only make one particular snapshot of a backup file non-recoverable. All other snapshots can still be recovered using the remaining differential delta files.

The full backup file, its checksum file and the last delta file uploaded (if more than one delta files have been uploaded to the backup server) is always stored in the data area. This means that these files are not affected by the setting of the retention policy and will always be kept on the backup server. It is done this way because all these files are required to get the latest snapshot of the backup file and they should not be removed from the backup server by the retention area cleanup routine. All other intermediate delta files are stored in the retention area.

8.6 Upload Full File

The [Upload Full File] setting defines when to upload a full file instead of a delta file.

No. of Delta

The [No. of delta] setting defines the maximum number of delta files from the same full backup file to be generated and backed up to the backup server

before a full backup (the whole file) of this file is uploaded to the backup server instead.

For example, if you have created 100 delta files from the full backup file already and this [No. of delta] setting is set at 100, the next backup will upload a full backup file (the whole file) instead of just the delta file. However, if the [No. of delta] setting is set to unlimited. It will keep generating delta files and uploading these delta files to the backup server until the other delta setting condition (delta ratio exceeded) forces a full backup. This setting is here to make sure that there will always be a full backup file after a certain number of delta files have been generated.

Delta Ratio

The [Delta Ratio] setting is defined as the file size of a delta file (the file size of the delta file generated by AhsayOBM on the client computer) and divided by the file size of its full backup file (the file size of the backup file on the disk of client computer), i.e. the percentage of changes detected between the last full backup file and the current file.

If the delta ratio calculated from the size of the generated delta file and the size of the full backup is greater than the [Delta Ratio] setting, the whole file, instead of just the delta file, will be backed up to the backup server. It is done this way because the difference between backing up the whole file and the delta file is not significant and it is better to upload the whole file instead.

The default setting of [Delta Ratio] is 50%. This means that if the changes detected within a file are more than 50%, the whole file, instead of the delta file will be backed up and uploaded to the backup server.

It is recommended for backupsets where the full file size(s) are relatively small:

1. The [No. of delta] settings be kept to a low value
2. The [Delta Ratio] setting should be less than 50%
3. The [Minimum Size] setting should be increased to more than 25 MB

This will minimize the probability of future restore problems caused by invalid or corrupted delta files.

8.7 Adgroups

An adgroup groups multiple advertisements into a logical unit which can then be assigned to different users. All advertisements within an adgroup will be presented to all users who have been assigned to this adgroup.

To add a new adgroup, type the name of the adgroup in the empty field located under [Adgroup for all AhsayACB and AhsayOBM users] and next to

the [New] text. Press the [Update] button at the bottom and a new adgroup will be created.
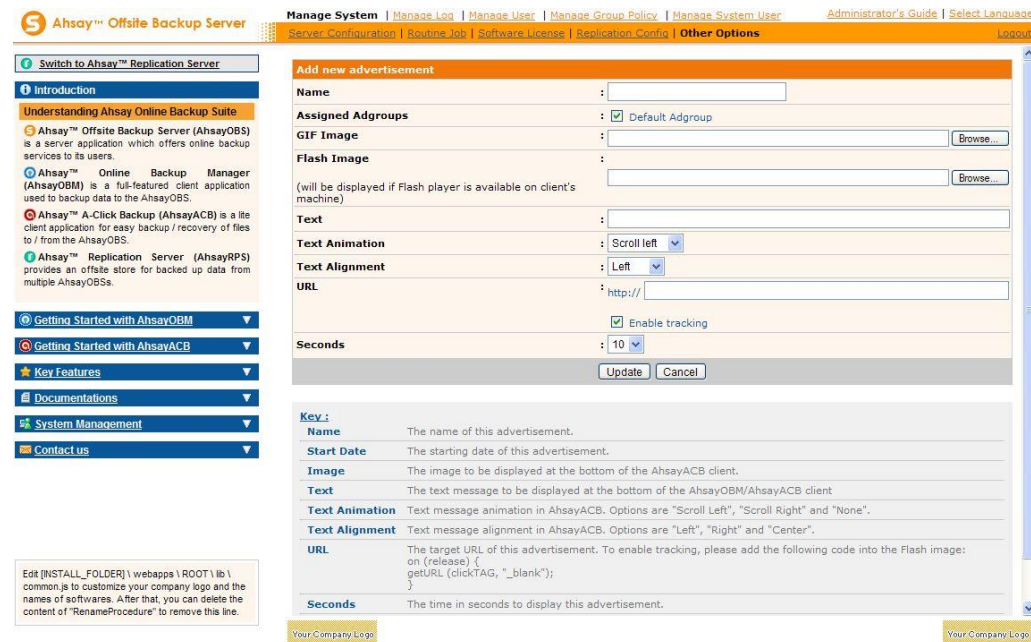
8.8 Advertisements

The [Advertisements] setting defines the advertisements and related information that is displayed at the bottom of all AhsayACB clients.

Key	Description
Add	Click this link to add a new advert.
Show Advertisement Log	Click this link to view the advertisement log.
Name	The name of the advertisement. Click the link to edit this ad.
Text	The text to be displayed at the bottom of the AhsayOBM/AhsayACB client.
Start Date	The data when this ad was created.
Popularity	Calculated value to indicate which ad. Is the most popular. The value is calculated as the percentage of [Hit for this ad.] divided by [Total Hits].
Hits	The "Hits" counter indicates the number of times this ad. has been clicked. These counters are only updated if the option "Enable Tracking" is set. The three values are [Hits within 1 day] / [Hits within the last 7 days] / [Hits within the last 30 days].
Time	The number of seconds to display the ad.
Move	The display sequence of the adverts.
Target	Click this link to test the advertisement's URL. This will open a browser and displays the URL web page.
Remove	Click this link to delete the ad.

Add New Advertisement

Click the [Add] link to add new advertisements. Enter the ad. information into the form provided.

Key	Description
Name	The name of the advertisement.
Assigned Adgroups	It determines if the advertisement should be included in the adgroup(s).
GIF Image	The full pathname of the image file to be displayed at the bottom of the AhsayOBM / AhsayACB client. The image size should be 468 x 60, and the format should be in GIF.
Flash Image	The full pathname of the flash image file to be displayed at the bottom of the AhsayOBM / AhsayACB client. The image size should be 468 x 60. Flash player must be available on the client's machine in order to display the image.
Text	The text to be displayed at the bottom of the AhsayOBM / AhsayACB client.
Text Animation	Setting to define whether the text should scroll. • Scroll Left – text scrolls from right to left. • Scroll Right – text scrolls from left to right. • None – do not scroll text.
Text Alignment	Setting to define the text alignment.

	• Left – text is aligned left. • Center – text is centered. • Right – text is aligned right.
URL	The URL of the ad. If the user clicks the ad. in AhsayOBM / AhsayACB, a browser will open and displays this web page.
Enable Tracking	When selected, every time the user clicks the advert in the AhsayOBM / AhsayACB client, a "Hits" counter is incremented.
Seconds	The number of seconds to display the ad.

9   Managing System Diagnosis

This chapter describes how to manage the function in the [Manage System] -> [System Diagnosis] page.

The default inspection type on this page is the showing the System Information, such as operating system, physical memory, heap size usage and number of threads on the server. This information is useful for administrator to check on the current health status of the AhsayOBS server and it is also useful for troubleshooting purpose.

Key	Description
Operating System	The version of the operating system that the AhsayOBS hosted on. Eg: Windows 2003, Windows XP.
Architecture	The CPU architecture (ISA) series for computer processors.
Number Of Processors	Number of independent actual processors in a single computing component.
Committed Virtual Memory	Amount of virtual memory guaranteed to be available to the running process.
Total Physical Memory	Total amount of random-access memory (RAM).

Free Physical Memory	Amount of free RAM available on the operating system.
Total Swap Space	Total amount of storage space in the hard disk drive that is used for virtual memory.
Free Swap Space	The amount of free space in the hard disk drive that is used for virtual memory.
Current Heap Size	Amount of memory currently occupied by the Java heap.
Maximum Heap Size	The maximum limit of Java heap size.
Live Threads	Current number of live daemon and non-daemon threads.
Peak	The highest number of live threads since Java Virtual Machine (VM) started.
Daemon Threads	Current number of live daemon threads.
Total Threads Started	Total number of threads started since Java VM started, including daemon, non-daemon, and terminated threads.

When the [System Files] inspection is selected, the following screen will be shown.

You can click into the folder path to navigate on your AhsayOBS server and you can click on the download icon to download the file/folder. You have the option to download the file in Zip format or no compression format. For example, if your file that you need to open is only several hundred Kbytes, you can use the no compression option. If the file size is several Mbytes, or

even Gbytes in size, or you are going to download the whole folder, you should use the Zip option. The download file will be renamed as *.zip and you need to unzip it by eg: Winzip. Also if the download file is in Zip format, the download speed will be much faster than no compression format.

Key	Description
Size	Size of the file (unzip).
Last Modified	The last modified date of the file.

10 Manage System User (Reseller Panel)

This chapter describes how you can use different function under the [Manage System User] menu to manage the system users or resellers within AhsayOBS.

The [Manage System User] feature allows backup server administrators to create three types of system users, "Admin", "Sub Admin" and "Non-Admin". System users with the "Admin" role have full control to manage all the system systems, policy sttings and backup user accounts. System users with the "Sub Admin" role have full control to managing their own backup user accounts. While "Non-Admin" system users only have read only access to the backup user accounts created by the "Sub Admin" system user. System users or resellers can independently manage there own group policy settings. Please refer to the chapter Group Policy Management for further details.

The backup server administrator can utilize system user accounts depending on the environment where the AhsayOBS server is deployed.

1. If AhsayOBS is deployed as an internal company backup service. The backup server administrator can create system user account with "Sub Admin" role for each department to manage their own backup users.

2. If AhsayOBS is deployed as a commercial backup service. The backup server administrator can create a system user account with "Sub Admin" role for each of their resellers to manage their own clients.

Each system user (Sub Admin) or reseller account on AhsayOBS supports the following customization features.

1. The look and feel of AhsayOBS web console along with the customized logos.
2. Customized logo for the reports sent to backup users.
3. Customized user guide.
4. Report can be sent via a system users own SMTP server. Each backup client type, i.e. AhsayOBM, AhsayACB can have its own designated report sender and reply email address.
5. Each system user or reseller can install there own web SSL certificate.

From AhsayOBS v6.7.0.0 onwards each system user (Sub Admin) or reseller account has full control in deploying client side upgrades for each backup user account under their control.

10.1 My Profile / Edit System User

When you click the [Manage System User] - > [My Profile] link available at the top menu, the [My Profile] form will be shown. You can then update system user profile to the system by submitting this form to AhsayOBS. The panel will display differently depending on the role of current login system user.

Admin Role

The build-in "system" account is defined as "Admin" role. "Admin" role user has the highest authorization level, all the AhsayOBS settings, backup users settings can be accessed or modified by "Admin" role users at all times.

| Manage System | Manage Log | Manage User | Manage Group Policy | **Manage System User** | Administrator's Guide | Select Language |
| **My Profile** | Add System User | List System User | Change Ownership | | | Logout |

System User Settings	
Login Name	: system
Role	: Admin
Password	: ******

Key :	
Login Name	Login Name used to logon to web interface.
Role	Role of system user
Password	Password used to logon to web interface.

From 6.11.0.0, new "Admin" role user can be added via the AhsayOBS management console > Manage System User > Add System User

| Manage System | Manage Log | Manage User | Manage Group Policy | **Manage System User** | Administrator's Guide | Select Language |
| My Profile | **Add System User** | List System User | Change Ownership | | | Logout |

System User Settings	
Login Name	: admin_staff
Role	: Non Admin ▾
	Admin
Password	: Non Admin
	Sub Admin
	[Add] [Reset]

Key :	
Login Name	Login Name used to logon to web interface.
Role	Role of system user
Password	Password used to logon to web interface.

The above user has the "Admin" role and it has the same privilege as the build-in "system" account. For example, you can assign this account for your administrator(s) to configure/administrate the AhsayOBS for you.

Non Admin Role

"Non Admin" role system user shares the similar accessibility as its creator except with read permission only (Descendant system users and backup users of its creator could be accessed). If "Non Admin" role system user needs to have the same User Control Policy Settings as its creator, remember to add the "Non Admin" role system user in the same user group as its creators.

For example, you may assign your operators to login the AhsayOBS to check on the backup reports and AhsayOBS system logs etc, without worrying that they will modify any settings on the AhsayOBS accidentally.

Sub Admin Role

"Sub Admin" role system user can access all descendant system users and backup users. When Single Level Access is enabled, system users are restricted to only accessing their own created system users, backup users of system users. Please refer to the chapter Single Level Access for further details.

Note:

1. Backup user accounts created by "sub admin" system users are only supported by AhsayOBM and AhsayACB v6.3.0.0 or above clients.

2. Backup user accounts created by "sub admin" system users running in an AhsayRDR setup, are only supported by AhsayOBM and AhsayACB v6.7.0.0 or above clients.

3. For sub admin with a different hostname setting than the default system account, all backup accounts created by that sub admin must use the corresponding hostname when logging into the AhsayOBM/ACB client or web interface.

4. If your domain name has already mapped with the port name

   eg. 192.168.1.123:8080 → backup.backupvault.com

   the port number 8080 is not required in the client connection settings.

Summary of the privileges of Admin, Sub-Admin and Non-Admin users

Description	Role		
	Admin	**Sub-Admin**	**Non-Admin**
General System Settings	✓	✗	Read only *
Connectivity Testing	✓	✗	✓ *
System Diagnosis	✓	✗	✓ *
System Logs	Read only	Read only	Read only
User Management (Profile, AutoUpdate, Report)	✓	✓	Read only
Backup Set Management	✓	✓	Read only

Run Backup	✓	✓	✓
Restore via restorer applet	✓	✓	✓
Delete file via restorer applet	✓	✓	✗
Group Policy Management	✓	✓	Read only
System User Management	✓	✓	Read only

* It is valid that the "Non-Admin" is created by the "Admin" but not valid if the "Non-Admin" is created by the "Sub-Admin".

10.2   SMTP Settings

[SMTP Settings] is available for "Sub Admin" role system user only. When [SMTP Settings] is enabled, user reports and system reports for current "Sub Admin" role system user and the associated backup users will be sent through system user defined SMTP server instead of default SMTP server defined at [Manage System] -> [Server Configuration] panel. The report sender contact information can be separated for OBM and ACB backup clients. A maximum of one report sender contact information can be defined for each backup client type.

Note:
SMTP server with Transport Layer Security (TLS) is not supported.

10.3   Customize Interface

[Customize Interface] is available for "Sub Admin" role system users only. This option allows "Sub Admin" role system users to customize their AhsayOBS web interface, documentation and company logo in email report with their own branding.

The default customization files are compressed into custom.zip file and can be downloaded from the key section (circled in RED). It consists of three folders for different customization formats:

1. "css" for web style sheets.
2. "gif" for AhsayOBS web interface logos.
3. "pdf" for documentation.

When updating the contents of the custom.zip file, please be careful not to change the folder structure or the folder names otherwise the customization cannot be applied to AhsayOBS. The custom.zip should only contain the following folders:

-->css
-->gif

-->pdf

The language code is enforced on .css and .pdf customization files. Please specify language code and appended it to the end of the file (e.g. jsp_en.css, jsp_da.css, obs-admin-guide_en.pdf, obs-admin-guide_da.pdf), system default settings will be used if language code cannot be found from uploaded files. Previous uploaded customized file can be downloaded again for further modification (circled in BLUE).

AhsayOBS reseller customization will be effective once "custom.zip" is uploaded from [Manage System] -> [Manage System User] -> [%system_user%] -> [Upload Customization File].

Please refer to the section Branding AhsayOBS in this document for the use of customization files.

A description of all fields above is provided in the following table.

Key	Description
Login Name	Login Name of current system user.
Role	Role of the current system user.
Password	Password of the current system user used to logon to web interface.

Name	Email report contact name of the current system user.
Email	Email address of the current system user.
Host Name	A resolvable hostname of dedicated for the current system user. (e.g. backup.company.com). Although you can supply an IP address here, Login name cannot be duplicated under the same host name.
SMTP Server	The SMTP server that AhsayOBS will use to deliver its email reports to current system user and backup users of current system user.
Report Sender	The name and email address that will be used as a sender for all outgoing mails to backup users of current system user. A maximum of two different report senders can be defined for AhsayOBM and AhsayACB users separately.
Upload Customization File	Upload AhsayOBS web customization file 'custom.zip' to the system.

Once the "custom.zip" file has been successfully uploaded to the reseller or "system user" account, the files will be uncompressed and saved under the %OBSR_HOME%\system\policy\SystemUser\%systemuser% folder along with a copy of the "custom.zip" file.
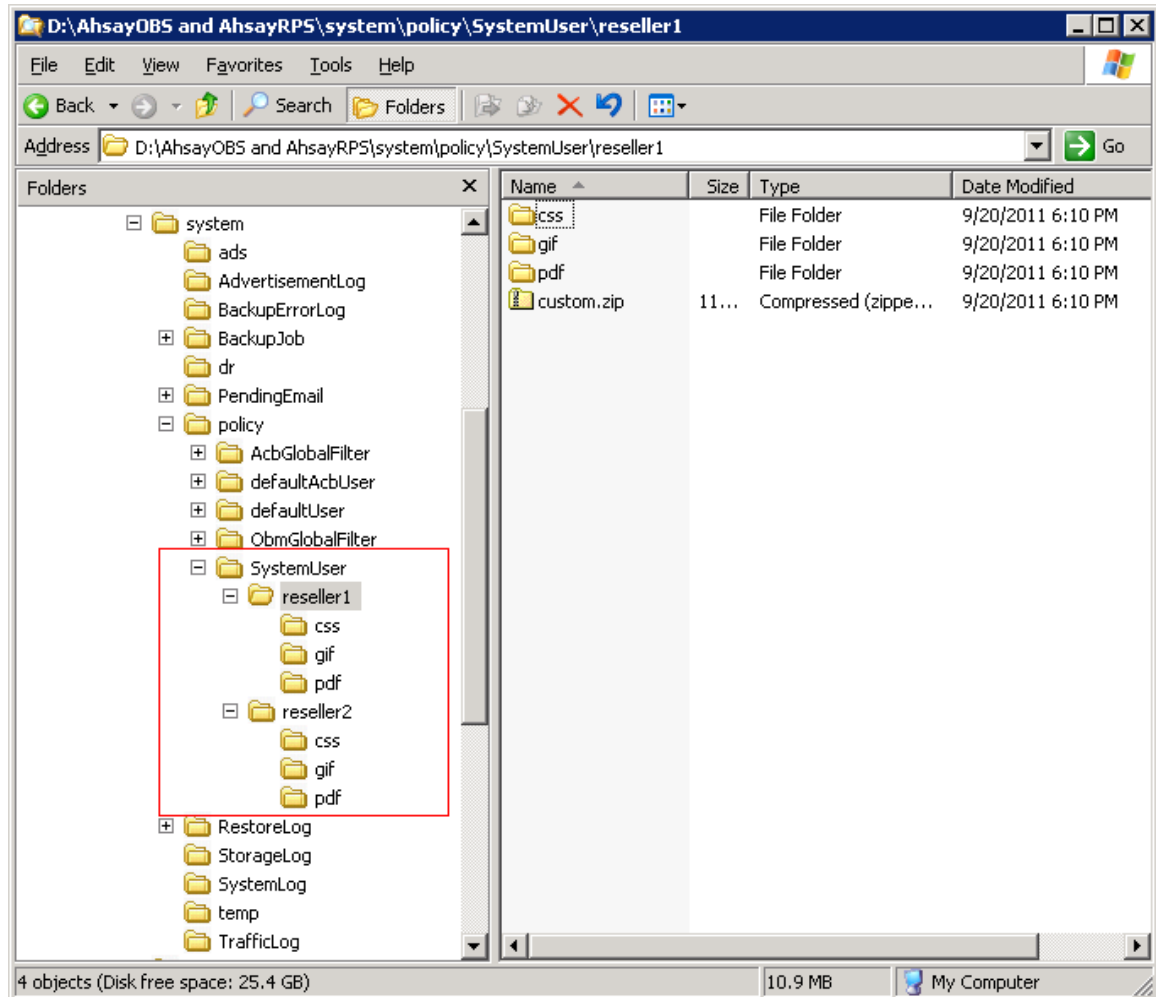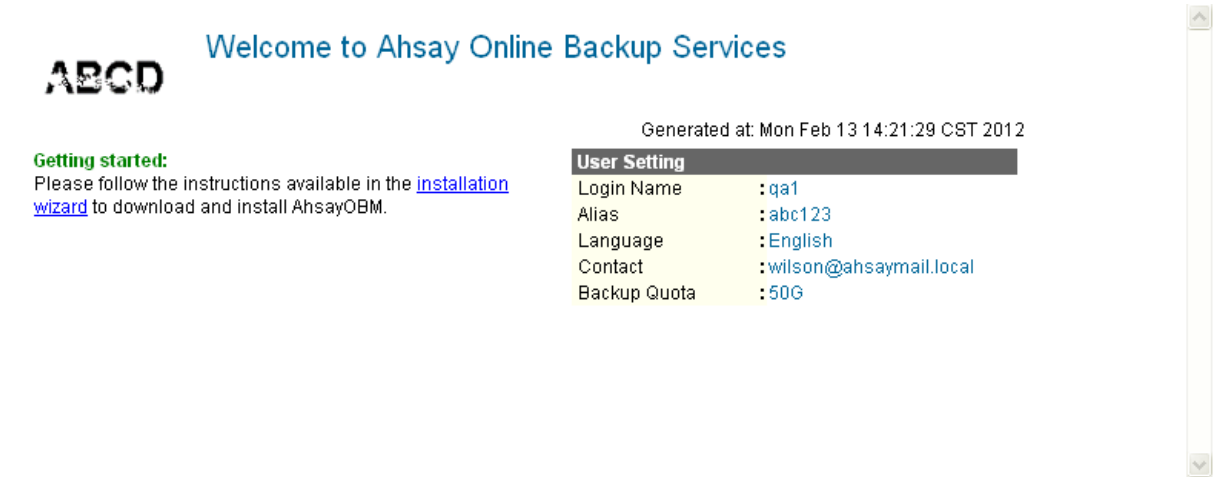
10.3.1 Customize Reseller Reports

In addition to modifying the look and feel of the AhsayOBS web console, each reseller can customize "logo" and "home page link" for the following email reports:

1. Backup Job Reminder Report
2. Backup Quota Reminder Report
3. Backup Report
4. Error report
5. Forgotten Password Report
6. Inactive User Report
7. New User Report
8. Offline Backup Reminder Report
9. Setting Change Report
10. Trial User Reminder Report

In order to customize the email reports, please replace the "default.large.gif" found in the "gif" folder of the custom.zip file, with the reseller customized logo and rename it to "default.large.gif"

The following is an example of a customized reseller New User report:

The customized reseller logo will appear on the top left hand corner of each report.

1. The logo is linked to the IP Address/URL of particular resellers AhsayOBS web console, when the logo is double clicked the resellers AhsayOBS web console will be loaded on the machines default web browser.
2. The "installation wizard" link will load the AhsayOBM/AhsayACB installation page using the resellers IP Address/URL.

10.4 Add System User

When you click the [Manage System User] -> [Add System User] link available at the top menu, the [Add System User] panel will be shown. This panel allows "Admin" role user to add an "Admin", "Sub Admin" and "Non Admin" role user to the AhsayOBS. A "Sub Admin" role user can also create "Sub Admin" and "Non Admin" role user using this panel. This panel is similar to the [My Profile] page under [Manage User] setting, except that user has the choice to select the [Role] on this page. The SMTP settings will be inherited to its associated users.

10.5   List / Remove System User

When you click the [Manage System User] -> [List System User] link located at the top menu, the [List System User] panel will appear. This panel allows you to list and access all other system users within your authority. You can use the alphabet categories at the top of the user listing to filter the listing to show those users whose login name starting with a certain alphabet. You can also use the [ALL] function to list all system users.

When you click the [Login Name] link available on the system user list, the [System User Settings] panel will appear for system user profile editing. When you click the [Role] link available on the system user list, the system user list will be filtered again by the selected system user. When you click the chain of system user list link under the alphabet categories (circled in RED), the system user list will be filtered again by the selected system user.

| Manage System | Manage Log | Manage User | Manage Group Policy | **Manage System User**   Administrator's Guide | Select Language |
| My Profile | Add System User | **List System User**   Logout |

[A-B | C-D | E-F | G-H | I-J | K-L | M-N | O-P | Q-R | S-T | U-V | W-X | Y-Z | Others | **All**]

system > Sub Admin User

No.	Login Name	Role	Name	Email	Host Name	Backup User	
1	Non Admin User2	Non Admin	--	--	--	--	🗑
2	Sub Admin User3	Sub Admin	--	--	192.168.6.129	🔴🔵	
3	Sub Admin User4	Sub Admin	--	--	192.168.6.129	--	🗑

Some definitions of the fields related are shown in the following table:

Key	Description
Chain of System User Login Names	It is shown by click on the role column in the [Manage System Users] Page.

You can filter a list of accessible system users of the selected system user by clicking on the login name link on the chain. |
Login Name	Login Name of the system user. Clicking [Login Name] link to access system user profile.
Role	Role of the system user. Select system user by clicking [Role] link to filter accessible system users of selected system user.
Name	Email report contact name of the system user.
Email	Email address of the system user.
Host Name	Host name/IP address assigned to the system user.
Backup User	Display in AhsayOBM and AhsayACB icons to indicate

	system user has one or more backup users. Clicking on the icon to view the list of backup users owned by the selected system user.
Owner	The owner of the corresponding system user.
Remove	To remove a system user from the system, just press the 🗑 link next to the system user that you would like to remove. The recycling bin disappears when the system user has created one or more system users or backup users.

For sub admin accounts the 🗑 link will only be visible if there are no existing dependencies for the sub admin accounts, i.e. system and backup users created by this account. If you wish remove a sub admin account, you will need to remove all system and backup users accounts by this particular sub admin account.

10.6 Recovering a System User/Non-admin Password

The "Admin Role" user can reset any "Admin" (except the build-in "system" user), "Sub Admin" and "Non Admin" role user's password via the AhsayOBS web console [Manage System] -> [Manage System User] -> [List System User] -> [%system_user%] -> [System User Settings] -> [Password], then enter a new password and press the [Update] button.

Alternatively, the server administrator can reset any "Admin" (except the build-in "system" user), "Sub Admin" and "Non Admin" role user password using the following procedure:

1. Open the %OBS_HOME%\system\policy\sysUser.xml file in a text editor.

2. Locate the entry for the affect system user or non admin account:

   <user name="reseller1"
   password="6ZoYxCjLONXyYIU2eJIuAw==" *role="reseller"*
   hashed-pwd="Y" *contact-name="Reseller 1" contact-email="reseller@ahsaymail.local" host-name="10.10.1.98" uid="13512" enable-smtp-setting="Y">*
   <smtp-server host-name="10.1.0.110" login-name="" password=""/>
   <report-sender name="Reseller 1 Manager" email="reseller@ahsaymail.local" obm="Y" acb="Y"/>
   <interface-customization enable="Y"/>

3. Change the hashed-pwd="Y" to hashed-pwd="N"

4. Change the password="6ZoYxCjLONXyYIU2eJIuAw==" to password="%New_Password%"

   The %New_Password% must be in clear text.

5. Restart your AhsayOBS service for the changes to take effect.

10.7   Reseller Backup User Account Restrictions

Each "Admin" role user or reseller is allowed to create their own backup user accounts. However, "Admin" role users or resellers on an AhsayOBS server which **share the same hostname**, they cannot create backup user accounts with identical user names.

If an "Admin" role user or reseller tries to create a backup user account whose username already exists under another reseller, the account creation will not be permitted.

The example shows a system user "reseller2" creating a backup user account "test2", which has already been created by another system user "reseller1". The following error will be shown on the AhsayOBS web console:

10.8 Reseller Web SSL Certificate Installation

It is possible to install an individual web SSL certificate for each reseller on AhsayOBS. In order to install a web SSL cert for a reseller, each reseller must be assigned an individual IP address.

Example 1:

A customer wants to setup an AhsayOBS server with the following configuration.

1. AhsayOBS server with URL main.xyzbackup.com which resolves to local IP address 10.10.1.7 using ports 80 and 443.

2. Reseller 1 is assigned a URL res1.xyzbackup.com which resolves to local IP address 10.10.1.97 using ports 80 and 443.

3. Reseller 2 is assigned a URL res2.xyzbackup.com which resolves to local IP address 10.10.1.98 using ports 80 and 443.

Each individual URL; main.xyzbackup.com, res1.xyzbackup.com, and res2.xyzbackup.com will have its own web SSL certificate.

1. Make copies of the default %OBS_HOME%\conf\keystore file

   i. %OBS_HOME%\conf\keystore_res1 for Reseller 1
   ii. %OBS_HOME%\conf\keystore_res2 for Reseller 1

2. Edit the server.xml file

```
<Connector address="10.10.1.7" port="80" maxHttpHeaderSize="8192" socketBuffer="65536"
maxThreads="1000" minSpareThreads="100" maxSpareThreads="8192" maxKeepAliveRequests="100"
enableLookups="false" redirectPort="443" acceptCount="200" connectionTimeout="60000"
disableUploadTimeout="true" URIEncoding="utf-8" />
<Connector address="10.10.1.7" port="443" maxHttpHeaderSize="8192" socketBuffer="65536"
maxThreads="1000" minSpareThreads="100" maxSpareThreads="8192" maxKeepAliveRequests="100"
```

enableLookups="false" redirectPort="443" acceptCount="200" connectionTimeout="60000" disableUploadTimeout="true" URIEncoding="utf-8" SSLEnabled="true" scheme="https" secure="true" **keystoreFile="conf/keystore"** keystorePass="changeit" clientAuth="false" sslProtocols="TLSv1" />
<Connector address=**"10.10.1.97"** port="80" maxHttpHeaderSize="8192" socketBuffer="65536" maxThreads="1000" minSpareThreads="100" maxSpareThreads="8192" maxKeepAliveRequests="100" enableLookups="false" redirectPort="443" acceptCount="200" connectionTimeout="60000" disableUploadTimeout="true" URIEncoding="utf-8" />
<Connector address=**"10.10.1.97"** port="443" maxHttpHeaderSize="8192" socketBuffer="65536" maxThreads="1000" minSpareThreads="100" maxSpareThreads="8192" maxKeepAliveRequests="100" enableLookups="false" redirectPort="443" acceptCount="200" connectionTimeout="60000" disableUploadTimeout="true" URIEncoding="utf-8" SSLEnabled="true" scheme="https" secure="true" **keystoreFile="conf/keystore_res1"** keystorePass="changeit" clientAuth="false" sslProtocols="TLSv1" />
<Connector address=**"10.10.1.98"** port="80" maxHttpHeaderSize="8192" socketBuffer="65536" maxThreads="1000" minSpareThreads="100" maxSpareThreads="8192" maxKeepAliveRequests="100" enableLookups="false" redirectPort="443" acceptCount="200" connectionTimeout="60000" disableUploadTimeout="true" URIEncoding="utf-8" />
<Connector address=**"10.10.1.98"** port="443" maxHttpHeaderSize="8192" socketBuffer="65536" maxThreads="1000" minSpareThreads="100" maxSpareThreads="8192" maxKeepAliveRequests="100" enableLookups="false" redirectPort="443" acceptCount="200" connectionTimeout="60000" disableUploadTimeout="true" URIEncoding="utf-8" SSLEnabled="true" scheme="https" secure="true" **keystoreFile="conf/keystore_res2"** keystorePass="changeit" clientAuth="false" sslProtocols="TLSv1" />

Create new entries in the server.xml for Reseller 1 (10.10.1.97) and Reseller 2 (10.10.1.98). Ensure that each entry for https refers to a unique keystore file.

10.10.1.7 -   keystoreFile="conf/keystore"
10.10.1.97 -   keystoreFile="conf/keystore_res1"
10.10.1.98 -   keystoreFile="conf/keystore_res2"

3. To install the individual web SSL certificates for each reseller, please refer to the instructions in [Installing a trusted SSL certificate](#).

10.9   Auto Update

Each reseller can manage the Auto Update of their own backup users and those of their own sub resellers from the AhsayOBS web console under the [Manage User] -> [Auto Update] page. The backup users accounts displayed include account created by the reseller and sub resellers, by default all backup users are selected for auto update.

In addition to displaying the list of backup users, when Auto Update is enabled on AhsayOBS. Both the latest available upgrade versions for AhsayACB and AhsayOBM are shown.

If the Auto Update feature is disabled on AhsayOBS the [Manage User] -> [Auto Update] page, will display the status "Auto Update is disabled". Both the latest available upgrade versions for AhsayACB and AhsayOBM will not be shown.

Note:

If the Auto Update feature is disabled on AhsayOBS, the reseller(s) will have to contact the AhsayOBS server administrator to enable this feature.

10.10 Change Ownership

Users can be relocated between different system administrator and reseller, or relocate between reseller and reseller on the AhsayOBS management console > [Manage System User] > [Change Ownership] page

10.10.1 Migrating users from administrator to reseller

To transfer users from administrator to reseller, please try the following steps:

1. Select the 'Transferor' from the dropdown list to Administrator

2. Select the reseller from the 'Transferee' dropdown list (eg: Bob)

3. Select the user to transfer by checking the check box next to the user. (eg: John) and press the [Update] button.

Manage System | Manage Log | Manage User | Manage Group Policy | **Manage System User**   Administrator's Guide | Select Languag

My Profile | Add System User | List System User | **Change Ownership**   Logou

⊙ Show Matched Hosts ◯ Show All Hosts

Transferor : Administrator ▾ (Administrator)

Transferee : -Bob ▾ (Administrator > Bob)

Search by : ⊙ Login Name ◯ Alias

[A-B | C-D | E-F | G-H | I-J | K-L | M-N | O-P | Q-R | S-T | U-V | W-X | Y-Z | Others | Trial | Paid | Suspended | Locked | **All**]

No.	⊡	Login Name (Alias)	Original Backup Server	New Backup Server	Notify ⬆
1	☑	⊙ John (user)	third.back-up.com	third.back-up.com	☐
2	☐	⊙ Mary (user)	third.back-up.com	third.back-up.com	☐
3	☐	⊙ Peter (user)	third.back-up.com	third.back-up.com	☐
4	☐	⊙ Tim (user)	third.back-up.com	third.back-up.com	☐

[Update] [Reset]

Key :
Notify   Notify backup user for changing ownership

4. User John disappeared because it is no longer under the Administrator's user list. Transfer completed.

Manage System | Manage Log | Manage User | Manage Group Policy | **Manage System User**   Administrator's Guide | Select Language

My Profile | Add System User | List System User | **Change Ownership**   Logout

⊙ Show Matched Hosts ◯ Show All Hosts

Transferor : Administrator ▾ (Administrator)

Transferee : -Bob ▾ (Administrator > Bob)

Search by : ⊙ Login Name ◯ Alias

[A-B | C-D | E-F | G-H | I-J | K-L | M-N | O-P | Q-R | S-T | U-V | W-X | Y-Z | Others | Trial | Paid | Suspended | Locked | **All**]

No.	⊡	Login Name (Alias)	Original Backup Server	New Backup Server	Notify ⬆
1	☐	⊙ Mary (user)	third.back-up.com	third.back-up.com	☐
2	☐	⊙ Peter (user)	third.back-up.com	third.back-up.com	☐
3	☐	⊙ Tim (user)	third.back-up.com	third.back-up.com	☐

[Update] [Reset]

Key :
Notify   Notify backup user for changing ownership

Note:
1. Email notification will not be turned on, as the user transfer is within the same host.

2. Backup users can be transferred between the same or different hosts. Section 9.10.2 shows you how the user is transferred within the same host, while section 9.10.3 shows you how the user is transferred between hosts.

10.10.2 Matched host transfer

The above example in section 9.10.1 demonstrates how to transfer a user between matched hosts. They are all in the same host name eg: third.back-up.com . You need to select the radio button 'Show Matched Hosts' and you can transfer users within the same host name.

Matched host transfer has less impact to backup user (ie, user does not require to change the connection host). Below is a diagram to illustrate how the user's ownership is transferred under a matched host.
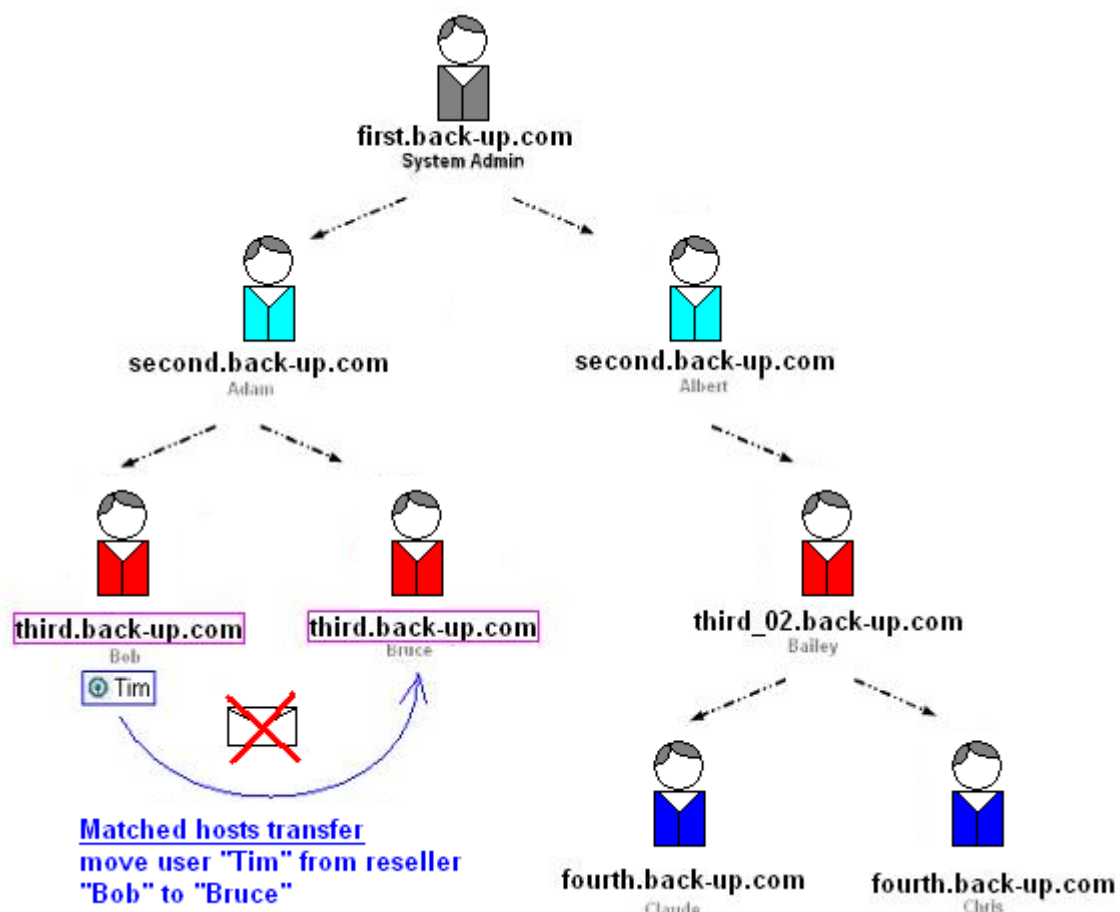
Backup user ownership can be transferred to the same hosts without email notification.

10.10.3 Mismatched host transfer

When a user is required to transfer between a different host name, eg: third.back-up.com to fourth.back-up.com

1. In AhsayOBS management console > [Manage System User] > [Change Ownership] page

2. Select the radio button 'Show All Hosts'

○ Show Matched Hosts ◉ Show All Hosts

3. Select the 'Transferor' from the dropdown list to 'Bob'

In this example, 'Bob' has a few users and wants to transfer user 'Tim' to reseller 'Claude'.

4. Select the reseller from the 'Transferee' dropdown list to 'Claude'

Manage System | Manage Log | Manage User | Manage Group Policy | **Manage System User**   Administrator's Guide | Select Language
My Profile | Add System User | List System User | **Change Ownership**   Logout

○ Show Matched Hosts ◉ Show All Hosts

Transferor : -Bob ▼ (Administrator > Bob)

Transferee : -Claude ▼ (Administrator > Claude)

Search by : ◉ Login Name ○ Alias

[A-B | C-D | E-F | G-H | I-J | K-L | M-N | O-P | Q-R | S-T | U-V | W-X | Y-Z | Others | Trial | Paid | Suspended | Locked | **All**]

No.	☐	Login Name (Alias)	Original Backup Server	New Backup Server	Notify ☐
1	☐	John (user)	third.back-up.com	fourth.back-up.com	☐
2	☐	Mary (user)	third.back-up.com	fourth.back-up.com	☐
3	☐	Peter (user)	third.back-up.com	fourth.back-up.com	☐
4	☐	Tim (user)	third.back-up.com	fourth.back-up.com	☐

[Update] [Reset]

Key :
Notify   Notify backup user for changing ownership

5. Select the user to transfer by checking the check box next to the user. (eg: Tim) , you can see the 'Notify' check box on the right hand side is also checked.

Manage System | Manage Log | Manage User | Manage Group Policy | **Manage System User**   Administrator's Guide | Select Language
My Profile | Add System User | List System User | **Change Ownership**   Logout

○ Show Matched Hosts ◉ Show All Hosts

Transferor : -Bob ▼ (Administrator > Bob)

Transferee : -Claude ▼ (Administrator > Claude)

Search by : ◉ Login Name ○ Alias

[A-B | C-D | E-F | G-H | I-J | K-L | M-N | O-P | Q-R | S-T | U-V | W-X | Y-Z | Others | Trial | Paid | Suspended | Locked | **All**]

No.	☐	Login Name (Alias)	Original Backup Server	New Backup Server	Notify ☐
1	☐	John (user)	third.back-up.com	fourth.back-up.com	☐
2	☐	Mary (user)	third.back-up.com	fourth.back-up.com	☐
3	☐	Peter (user)	third.back-up.com	fourth.back-up.com	☐
4	☑	Tim (user)	third.back-up.com	fourth.back-up.com	☑

[Update] [Reset]

Key :
Notify   Notify backup user for changing ownership

6. Click on the [Update] button.
(A notification email will be sent to backup user 'Tim' to remind using a new connection host. All services will resume normal only after backup user re-login with new connection host.)

7. User 'Tim' disappeared because it is no longer under the Bob's user list. Transfer completed.

○ Show Matched Hosts ◉ Show All Hosts

Transferor : [-Bob   ▼] (Administrator > Bob)

Transferee : [-Claude   ▼] (Administrator > Claude)

Search by : ◉ Login Name ○ Alias

[A-B | C-D | E-F | G-H | I-J | K-L | M-N | O-P | Q-R | S-T | U-V | W-X | Y-Z | Others | Trial | Paid | Suspended | Locked | **All**]

No.	☺	Login Name (Alias)	Original Backup Server	New Backup Server	Notify ☝
1	☐	⊕ John (user)	third.back-up.com	fourth.back-up.com	☐
2	☐	⊕ Mary (user)	third.back-up.com	fourth.back-up.com	☐
3	☐	⊕ Peter (user)	third.back-up.com	fourth.back-up.com	☐

[Update] [Reset]

Key :
Notify   Notify backup user for changing ownership

Note:
   Email notification can be disabled by unchecking the notify check box,
   user cannot connect to the backup server until the hostname setting is
   changed on the AhsayOBM/AhsayACB on the user machine.

Below is a diagram to illustrate how the user's ownership is transferred under
a mismatched host.
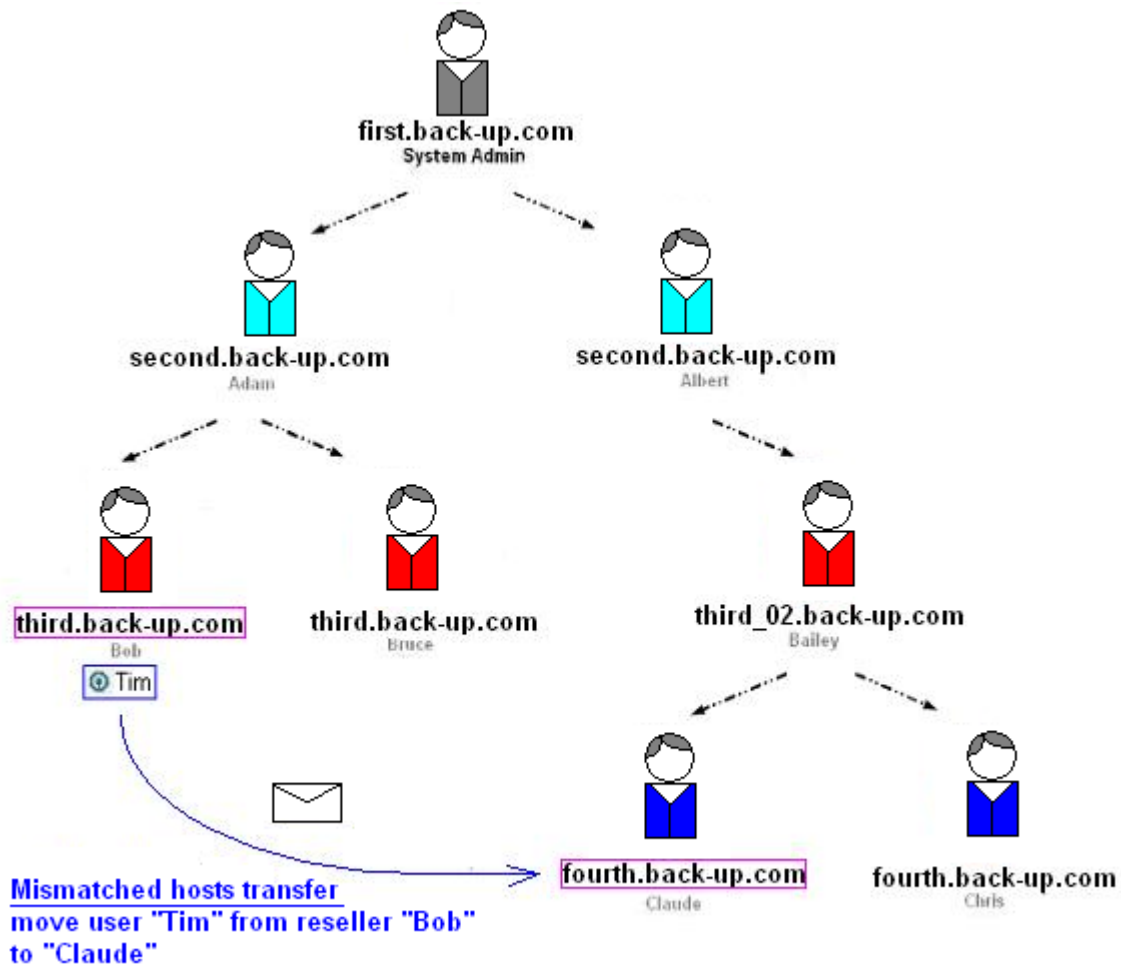
Backup user's ownership can be transferred even when hosts are mismatched. The above example shows reseller 'Bob' and 'Claude' are under two different hosts, user 'Tim' will receive email notification and must re-login AhsayOBM/AhsayACB to allow the changes effective.

10.10.4 Reminder email

A notification email will be sent to backup user when 'Notify' option is selected. This email reminds backup user to change their current backup connection settings to new connection settings on the AhsayOBM/AhsayACB. The reminder email will only be sent when backup account is transferred successfully.

From: Claude To: user
Subject: Change Backup Server Host Name Reminder > Tim(user)

Change Backup Server Host Name Reminder

Generated at: Mon Jan 30 11:06:30 CST 2012

Notice:
The backup server host name is changed. The new setting takes effect immediately. Please use the new host name to logon to AhsayOBM and web console.

User Setting	
Login Name	: Tim
Alias	: user
New Host Name	: fourth.back-up.com

The message "[ChangeOwnership.sendEmail] will be logged in the system log and user log when the email is send to "Tim".

140	11:06:30 AM	Tim	Claude	[info][system][changeOwnership] Changed the owner from 'Bob' to 'Claude' of user 'Tim'
141	11:06:30 AM	Tim	Claude	[info][system][ChangeOwnership.sendEmail] The email is sent to Tim (user)

10.10.5 Suggestions and Best Practice

1. When the system is running other process simultaneously on the backup user account, such as the following list of operations, change of ownership cannot be performed.

   - Backup (including server initiated backup jobs)
   - Restore
   - Rebuild (including on the fly rebuild, single user rebuild or weekly storage rebuild)
   - Delta merge
   - Delete files or backup set using AhsayOBM/AhsayACB or restore applet
   - Undelete
   - Retention policy
   - CRC job
   - Configuration archival
   - Delete backup file using API
   - Delete backup set using API
   - Delete backup data using API
   - Modify backup user using API

2. If a user is using CDP, user should disable the CDP before the ownership transfer. After the change ownership process, user must re-login to the AhsayOBM/ AhsayACB to enable the CDP.

3. Backup user account cannot be transferred if a duplicated account already exists on the transferee (reseller).

4. Backup user cannot be transferred if the user home is locked by external factor eg: file level access to the original user home.

5. If the transferred user has been replicated to the the AhsayRPS server, after the change ownership process, the replicated user will be moved to the retention area on the RPS and the whole user folder of the newly ownership changed user will be replicated to the AhsayRPS again. This will affect users when the replication is running in UNSYNC and SYNC mode. If it is already in LOGGING mode, only the changes (e.g. folder rename, cloned policies) will be replicated to AhsayRPS. Please reserve enough disk space on the AhsayRPS.

6. When a user is transferred, all associated user groups and policy groups will be cloned under transferee to preserve the settings and uploaded data.

   Due to the current limitation, when another user under the same policy group is transferred, a new policy group will be cloned again on the reseller's policy group and this will end up duplicated policy groups. If you move the users one by one, it could end up with many duplicated policy groups, administrator or resellers are required to manually re-apply users to the dedicated policy group after user transfer and remove all those duplicated policy groups.

10.10.6 Common error messages

Error	Description
Transferee cannot be empty	No Transferee is selected.
The host name of transferee cannot be empty	Transferee has no host name entry in the reseller's setting.
User 'xxx' is running 'Backup' operation. Ownership transfer cannot be proceed until the operation finished.	Backup user cannot be transferred when user is running a backup operation.
User 'xxx' is running some operations. Ownership transfer cannot be proceed until all operations finished.	Backup user cannot be transferred when running multiple operations. Actual reason can refer to the AhsayOBS system log.
User 'xxx' ownership transfer cannot be proceeded.	Backup user cannot be transferred when user home is locked by external factor, eg file system is locked.
The backup user, 'xxx', already exists in the system user, yyy	A system administrator cannot transfer a backup user to a reseller because a duplicate user name already exists.
E409 – 12345 The backup user, xxx, has been	Backup user cannot be transferred because transferee (reseller) is holding a backup client
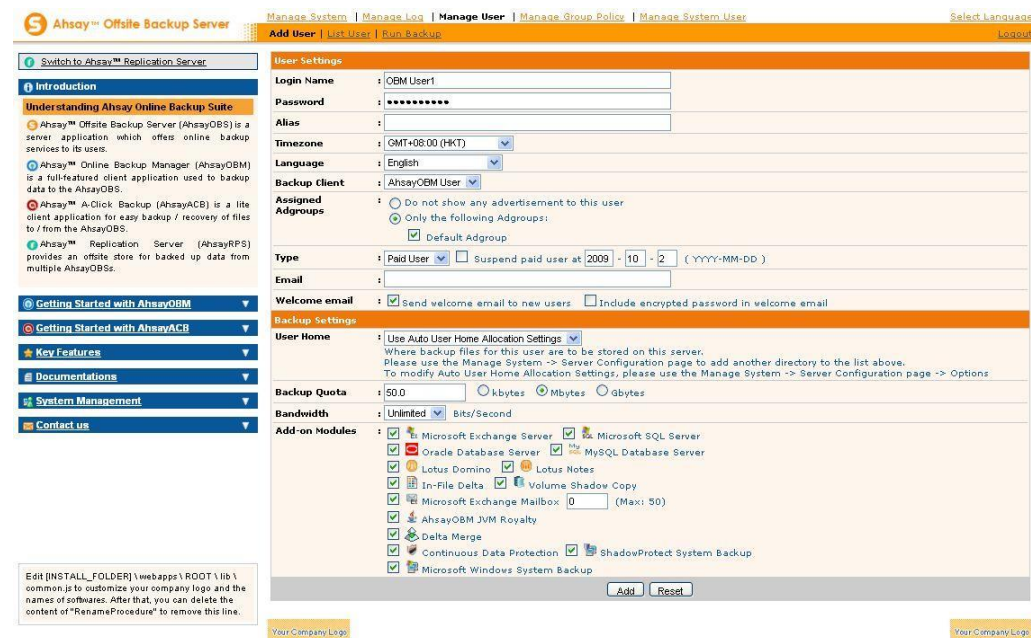
reserved. Please contact the System Administrator for assistance.	with the same login name. Note: 12345 is the reseller's ID.
Login Name 'xxx' is used	Backup user cannot be transferred because transferee (System Administrator) is holding a backup client with the same login name.
User 'xxx' ownership transfer is in progress.	Backup users can only be transferred at most one transferee at a time.

11 Managing Backup Users

This chapter describes how you can use all pages under the [Manage User] menu to manage the backup users within AhsayOBS.

11.1 Create Backup User

When you click the [Manage User] -> [Add User] link available at the top menu, the [Add User] form will appear (see below). You can then add a backup user to the system by submitting this form to AhsayOBS.

A description of all fields above is provided in the following table.
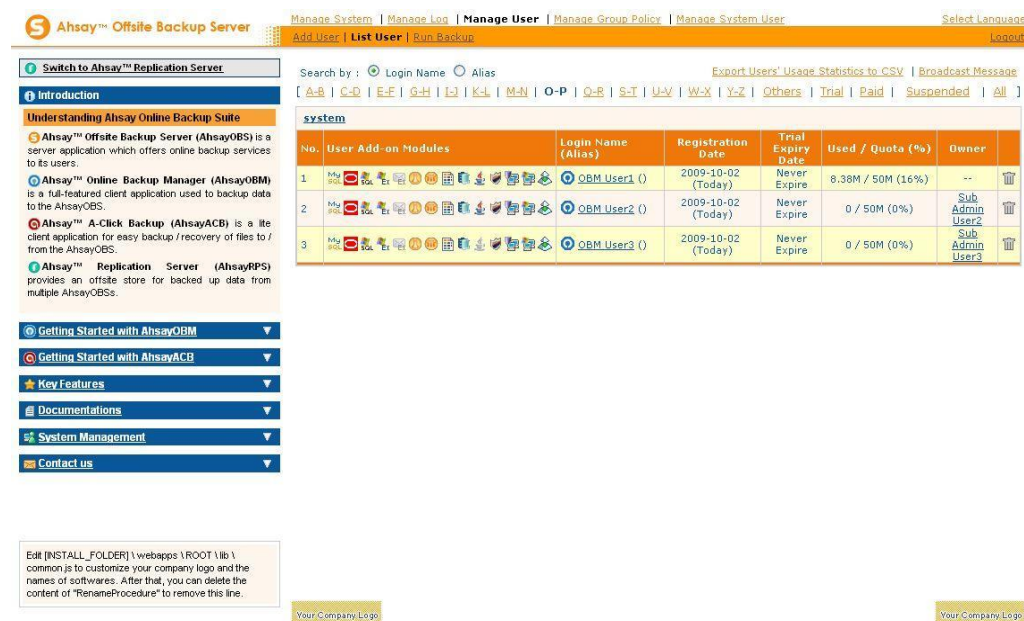
Key	Description
Login Name	Login Name of the new backup user.
Password	Password of the new backup user.
Alias	Another name of the new backup user.
Time zone	Time zone of the new backup user.
Language	Preferred language for all email reports of the new backup user.
Backup Client	Choose AhsayOBM client or AhsayACB client.
Assigned Adgroups	Choose whether advertisements are displayed at the bottom of the backup client.

Type	Either [Trial] or [Paid] type. Trial accounts and paid users differ in the following ways: 1. Trial users can only have a maximum backup quota of 500MB within the trial period. 2. Trial users subject to automatic removal as defined by the [Free Trial Registration] setting (though automatic removal can be disabled). Other than the differences listed above, both trial and paid users are the same in all other areas.
Email	Email address of the new backup user.
Welcome email	Define whether a welcome email should be sent to the new user email address.
User Home	The top directory where the software stores backup files and all other information for the new account. If you want this user to be in another partition (or in another drive), please add another user home to AhsayOBS by using the [Manage System] -> [System Configuration] page. If you want to setup your user home directories to a network drive, please do refer to FAQ: How do I add user storage to my AhsayOBS? (2437) for more information.
Backup Quota	Backup Quota of the new account.
Bandwidth	Bandwidth allowed for the new account.
Add-on Modules	Whether to enable any of the add-on modules to the new backup user. The [Microsoft Exchange Mailbox] text field defines the number of exchange mailboxes that is allowed to be backed up under this user account.

11.2   List / Remove Backup User

When you click the [Manage User] -> [List User] link available at the top menu, the [List User] panel will appear. You can use the alphabet categories at the top of the user listing to limit the listing to show only those users whose login names starting with a certain alphabet. You can also use the [All] function available to list all users within the system.

To remove a user from the system, just press the 🗑 link next to the user you would like to remove.
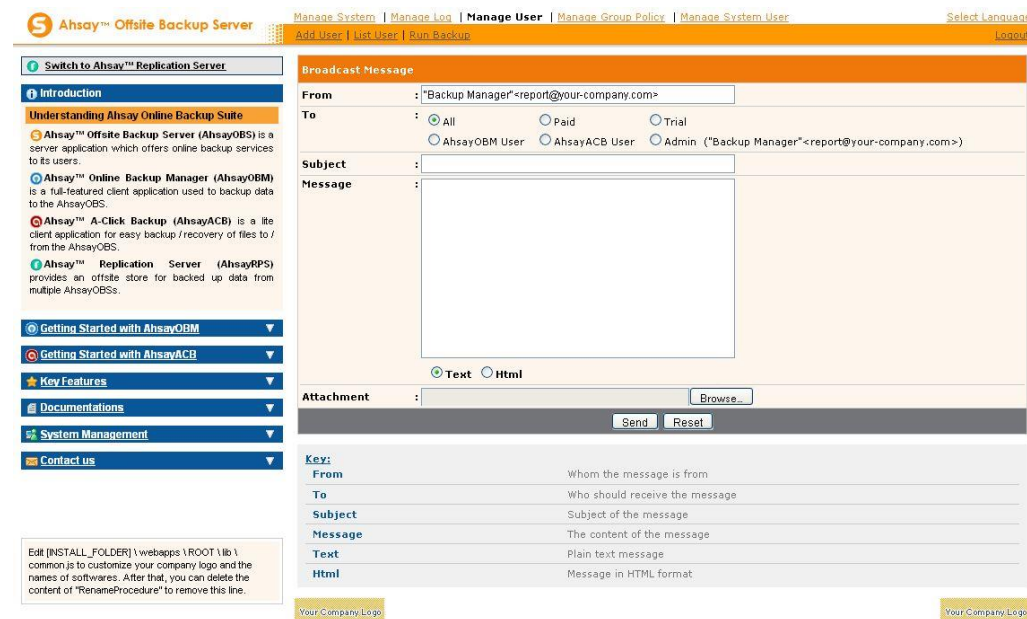
Key	Description
Search By	Define whether alphabetically search should be applied to [Login Name] or [Alias].
User Add-on modules	Indicates the add-on modules for this account.
Login Name (Alias)	Login Name of this account. Click the link to see account details. The name in blankets is the alias, and the icon indicates the client type (AhsayOBM or AhsayACB).
Registration Date	Date when this account was created.
Trial Expiry Date	The expiry date of trial users. If it expires, the user account will be suspended. Paid users will show "Never Expire" in this field.
Used/Quota (%)	The used/allocated quota (and the quota usage percentage) of this backup user.
Owner	Owner of this backup user.

Remove	Remove this backup user.
Export Users' Usage Statistics to CSV	Export all users' usage statistics to a .csv file.
Broadcast Message	Use this option if you want to broadcast messages to backup users.

11.3   Broadcast messages to backup users

After you press the [Broadcast Message] link on the top right hand corner of the [Manage User] -> [List User] panel, you will be brought to the [Broadcast Message] page. You can use this page to broadcast messages to different types of backup users.
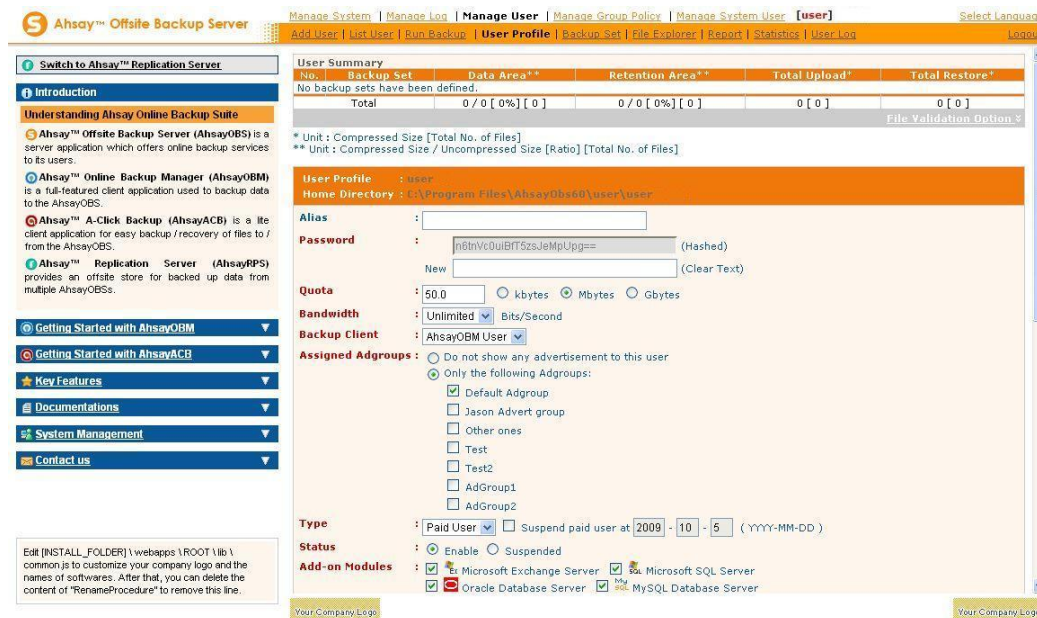
Key	Description
From	Sender of this message
To	Broadcast message to the following users types: • All – all backup users • Paid – backup users of [Paid] user type • Trial – backup users of [Trial] user type • AhsayOBM User - backup users of AhsayOBM client type • AhsayACB User – backup users of AhsayACB client type • Admin – backup administrator, i.e. email address defined on the [Manage System] -> [System Configuration] -> [Administrator Contact] list (useful if you want to test the

	broadcast feature before sending the message out to all users).
Subject	Subject of this message
Message	Content of this message
Text/HTML	The content type of this message, i.e. whether content should be considered as plain text or HTML.
Attachment	A file to be broadcasted with this message.

11.4   Managing User Profile
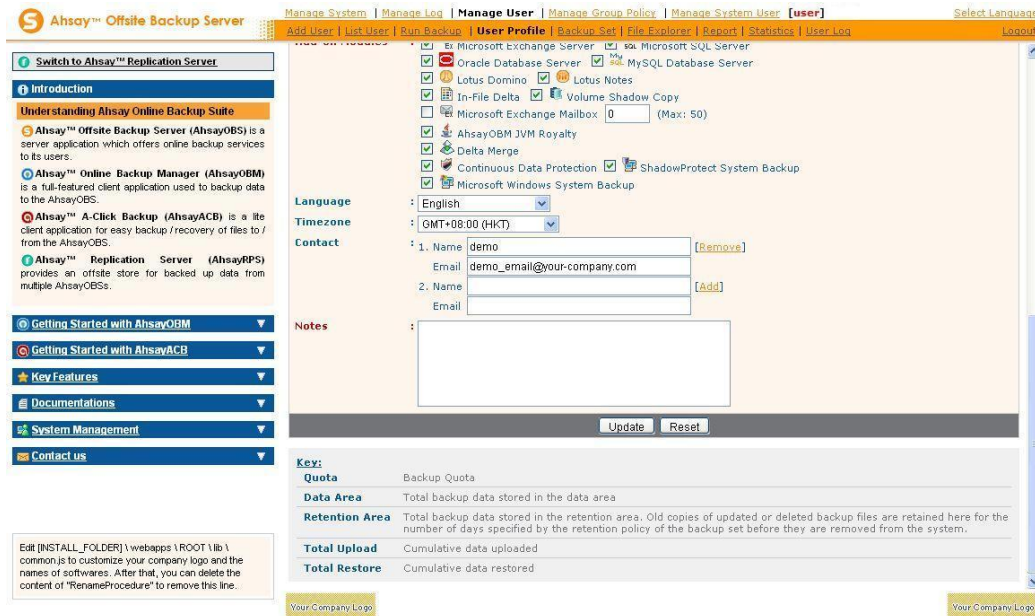
After you press the user name link on the [Manage User] -> [List User] panel, you will be brought to the [User Profile] for this particular user. You can use this panel to update the profile of this user.

This panel is no different to the [User Profile] panel that users will see when they logon to the user areas except that you can now update the [Type], [Quota] and [Add-on Module] (shown in RED) entries on this page.

Click the [File Validation Option] link to rebuild this user's storage information. When a rebuild user jobs is started, AhsayOBS will check if there is an active job running on the backupset before a rebuild is performed on the backupsets. If a backup job is active, the rebuild user storage job will skip rebuilding the active backupset, this will be recorded in the AhsayOBS system log.

The information message "*[info][system][BfsManager.rebuildUserBFS] The rebuild is skipped on the running backup set ESXi4(1300930261358) of user test1*" is recorded when a backupset is skipped.

From AhsayOBS v6.7.0.0 onwards, for the single user rebuild feature backup users or backup server administrators will have the option of selecting either:

i.   Rebuilding all backup sets under the backup user account or
ii.   Rebuilding a single backup set under the backup user account

By default the single user rebuild will rebuild all backup sets under a backup user account.

To perform a single user rebuild of a specific backup set, click on the "Backup Set" combo box and select the desired backup set.

When a rebuild of a single backup set is completed, the following message will be shown in the AhsayOBS system log:

The system log entries will specify that AhsayOBS has "Finished single backup set rebuild."

Note:

i. When a rebuild user storage is run on a user account with active backupsets, the calculations for the storages statistics may not reflect the actual storage used as all active backupsets are skipped.

ii. For issues relating to incorrect storage statistics, please make sure the rebuild user storage job is run when no backup jobs are active.

    iii.   If all backup sets under a user accounts need to be rebuilt, it is recommended that a single rebuild user storage job is started at least 45 minutes after the completion of the last backup job.

    iv.   If a single user rebuild is run for a single backup set, the "Last Check" date and time will also be updated.

You can reset a user password by entering a new password in [User Profile] -> [Password] -> [New] entry and press the [Update] button. Even though the user password has been updated, both old and new passwords will be temporarily valid, until the user connects to AhsayOBS via AhsayOBM/AhsayACB with the new password. This is because a copy of the user's old password is still saved on the client machine. It's required by AhsayOBM/AhsayACB scheduler service to connect to AhsayOBS in order to run scheduled backups in the interim period.

The [Microsoft Exchange Mailbox] text field defines the number of exchange mailboxes allow to be backed up under this backup account. The [Max] message indicates the maximum number of remaining licenses available.

The [Bandwidth] option allows you to set a maximum network usage for all running backup sets of this particular backup account. All backup sets will share the same bandwidth defined by this setting. If you have set the bandwidth to be 128kbits/second and there are two backup sets running at the same time, each backup set will share roughly half of the bandwidth assigned, i.e. 64kbits/second.

The [Notes] field allows you to attach some other information, e.g. telephone number or billing address, with this backup account.
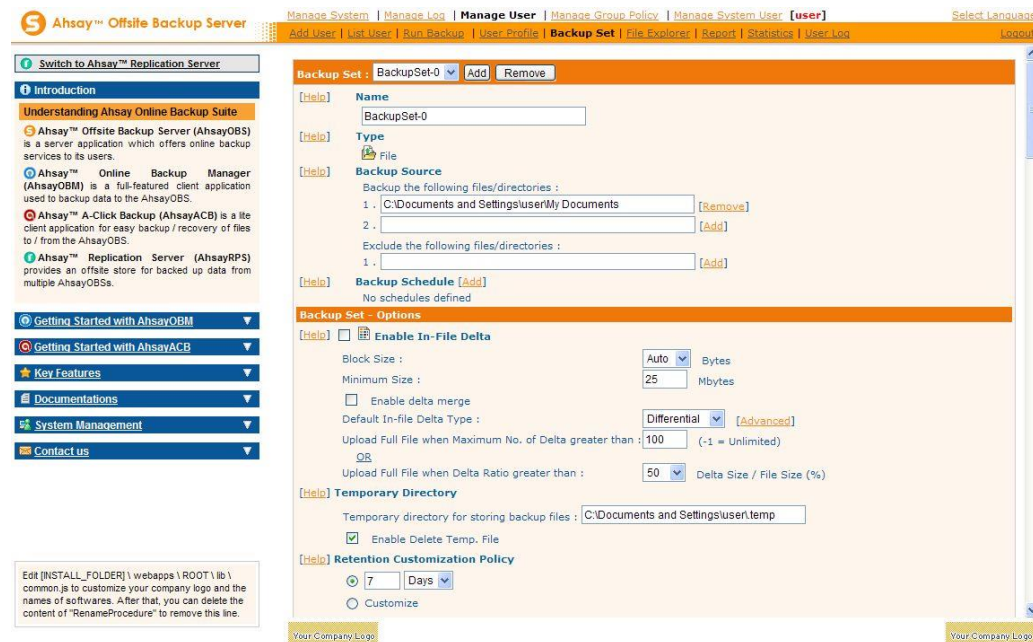
Any updates made to the user profile will trigger:

    i.   A "Settings Change Report" will be sent to the user (if the routine job is enabled).

    ii.   A log entry of the change will be recorded in the [Manage System] -> [Manage Log] -> [System Log]

    iii.   A log entry of the change will be recorded in the [Manage System] -> [Manage User] -> [%USERNAME%] -> [User Log]

11.5 Managing Backup Set

After pressing on the link of the selected user on the [Manage User] -> [List User] panel, a [Backup Set] link is now available in the extended user menu. You can review the backup sets setting of this particular user by clicking the [Backup Set] link.

To update the backup set setting of this particular user, just make the required changes on the form below and press the [Update] button.

Setting Online Restore IP Restriction

At the bottom of the [Backup Set] panel, you should be able to find the [Online Restore IP Restriction] section. If you would like to restrict online file restore of this backup set to only a subset of trusted IP addresses, you just need to enter the trusted IP addresses here. Once you have entered some IP addresses into the IP restriction list, online file restore request originating from IP addresses into the IP restriction list, online file restore request originating from IP addresses not listed on this list will no longer be able to restore any files from this backup set. (You can use the IP range of 127.0.0.1 – 127.0.0.1 to disable online restore completely).
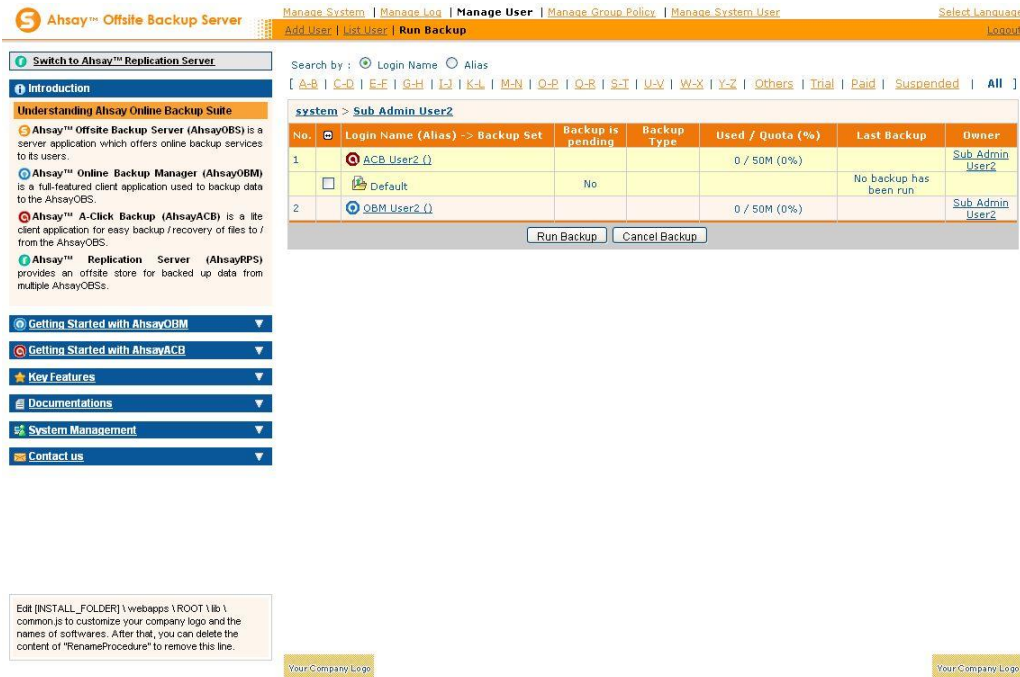
Global Backup Set Values

The following values are only valid for Group Policy enforcement and default backupsets only, do not use these values in normal backupsets.

Value :	
${lotus.notesini}	Notes INI path
${mac.desktop}	Desktop directory in Mac OS
${mac.documents}	Documents directory in Mac OS
${mac.movies}	Movies directory in Mac OS
${mac.music}	Music directory in Mac OS
${mac.pictures}	Pictures directory in Mac OS
${mysql.mysqldump}	MySQL dump path
${sys.KEY}	KEY is the name of the System Property e.g. ${sys.user.home} is the home directory of the user
${win.desktop}	Desktop directory in Windows
${win.favorites}	Favorites directory in Windows
${win.mail}	User data of Outlook Express or Windows Mail (Windows Vista / Windows 7 / Windows Server 2008 / Windows Server 2008 R2) in Windows
${win.mydocuments}	My Documents directory in Windows
${win.outlook}	User data of Outlook in Windows
${winenv.KEY}	KEY is the name of the Windows Environment Variable e.g. ${winenv.SYSTEMDRIVE} is the drive containing the Windows root directory (C: by default)
${winreg.KEY}	KEY is the name of the Windows Registry Key e.g. ${winreg.HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ShadowProtectSvc\ImagePath} is the value of ShadowProtect installation path

11.6   Initiating Backup from AhsayOBS

While end users can initiate backup jobs from their computers by using manual or scheduled backup jobs from AhsayOBM or AhsayACB. The AhsayOBS server administrator can initiate a backup job from AhsayOBS web console. In order to initate a backup job go to the [Manage User] -> [Run Backup], and you will have something similar in the following screenshot:

Some definitions of the fields related are shown in the following table:

Key	Description
No.	Number count of user.
Login Name (Alias) -> Backup Set	The login name of the user with the alias bracketed behind. If there is any backup set, the name of the backup set will be shown under the user login name.
Backup is pending	"Yes" if the backup job is pending after pressing [Run Backup]; Otherwise "No".
Backup Type	Type of backup. For files only backup, the backup type will be empty.
Used / Quota (%)	The used data size of the user on the server and the total quota of data size that the user can use. The percentage of used size over quota is bracketed behind.
Owner	Owner of this backup user.

Last Backup	The creation time of the latest backup.

In order to use this feature:

- The AhsayOBM/AhsayACB scheduler service must be running on the client machine and can connect to the AhsayOBS server.

- The "Run scheduled backup on computers named" field on the backupset must be filled in with the correct computer name of the client machine.

To initate a backup job from AhsayOBS, check the box next to each of the required backupsets.Then press the [Run Backup] button at the bottom of the page. The status of [Backup is pending] of the chosen backup sets will be changed to "Yes", and after a short time AhsayOBM/ AhsayACB will start backing up the data sources from the specific machine.

When the backup is finished, the status of [Backup is pending] will become "No", and the [Last backup] will be update with date and time of the last backup job.

11.7   Browsing User Backup File

You can click the [File Explorer] link available at the extended [Manage User] menu to invoke the [File Explorer] panel. You can use this panel to browse and restore user's backup files. This panel is the same [File Explorer] panel that users would see when they click the [File Explorer] link after they have logged on to the system. Please refer to the User's Guide for information on how to restore users' backup files.

11.8   Reviewing User Backup Report

You can click the [Report] link available at the extended [Manage User] menu to invoke the [Report] panel. You can use this panel to review users' backup activities. This panel is the same [Report] panel that users would see when they click [Report] link after they have logged on to the system. Please refer to the User's Guide for information on how to review users' backup activities.

To review CDP backup reports instead of selecting the backup time, select "(CDP)", as CDP backup jobs are constantly active the job status prior to the daily cut off at 12:00 AM is "Backup not yet finished"
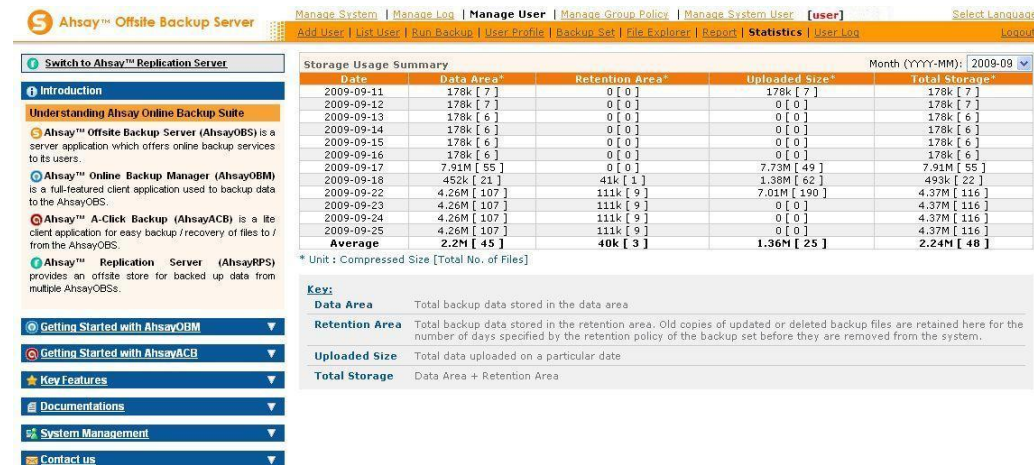
11.9   Reviewing User Storage Statistics

You can click the [Statistics] link available at the extended [Manage User] menu to invoke the [Statistics] panel. You can use this panel to review users' storage statistics. This panel is the same as the [Statistics] panel that users would see when they click the [Statistics] link after they have logged on to the system. Please refer to the User's Guide for information on how to review user' storage statistics.

User statistics are calculated on a daily basis by the "Usage Report" system job. If the "Usage Report" is disabled or if your AhsayOBS service is offline when the "Usage Report" system job is due to run, no user statistics will be calculated for those days. AhsayOBS cannot calculate user statistics for past days which have been missed.

11.10 User Log

You can click the [Statistics] link available at the extended [Manage User] menu to invoke the [User Log] panel. You can use this panel to review the user specific activities on the AhsayOBS server.

A copy of user related activities can also be seen in the AhsayOBS system log, under [Manage System] -> [Manage Log] -> [System Log].

12 Group Policy Management

This chapter describes how you can use the [Manager Group Policy] menu to manage your user groups on AhsayOBS.

Term	Descriptions
Policy Control	Areas that are affected by group policy
Policy Group	A group of preset policy control objects
User Group	A group of users.

12.1   About Group Policy

The Group Policy feature is designed to simplify administration and to reduce the effort required for managing backup users, e.g. security settings and backup set settings. It allows backup server administrator a greater degree of flexibility in tailoring features and services to target specific customer segments.

User Groups

When Group Policy is implemented on AhsayOBS, the backup user accounts will be conslidated into common user groups. Each user group will have its own set of policy groups which govern behaviour of the backup clients. The types of features that can be configured from a policy group are restricting or hiding certain functions or features on AhsayOBM/AhsayACB user interface or the AhsayOBS web console.

For example, a backup service provider wishes to offer customers a cut rate service plan, i.e. "OBM Basic Plan", which consists of fixed quota limit and where customer cannot change backupset settings. The service provider will create a user group on AhsayOBS called "OBM Basic Plan". To customize the features for each group, a policy group will need to be created called "OBM Basic Plan Policy", which will contain a group share quota setting and a Policy Control Setting for AhsayOBM to disable access to some AhsayOBM controls.

 [OBM Basic Plan Policy] → [OBM Basic Plan]

Once the policy group "OBM Basic Plan Policy" is assigned to user group "OBM Basic Plan ", it will be effective immediately. Any AhsayOBM users that are assigned to the "OBM Basic Plan" group will be governed by the "OBM Basic Plan Policy" settings.

Policy Controls

The policy controls which can be customized for each user group are:

1.   Shared Quota Settings

A maximum quota or "Shared Size" can be specified for each user group via a policy group setting, each backup user assigned to the user group will automatically be allocated a portion of this quota, according to the "Maximum percentage of shared size for each user" value.

2.   Backupset Configuration

- Define a default backupset for AhsayOBM/AhsayACB users who belong to the group.

- Define an enforcement backupset for AhsayOBM/AhsayACB users who belong to the group. When an Enforcement backupset is configured for a backupset type, it will over overwrite all settings on any pre-exisiting backupset types.

3.   Policy Control Setting

The Policy Control Setting allows the backup server administrator to customize the user interface for AhsayOBM/AhsayACB and AhsayOBS user web console interface according to each user group.

4.   Global Filter Setting

This setting defines a global file filter for AhsayOBM and AhsayACB backupsets which belong to the user group. The backupsets which can be configured with global filtering on AhsayOBM are restricted to File, CDP, Lotus Domino, and Lotus Notes backupsets. When a global filter is applied to a user group, any the pre-existing backupset filters will be overwritten by the global filter.

5.   Exclude File Size Over Setting

This setting defines the file size restriction for each individual file in a backup. When it is applied to a user group, any file size over the threshold will be excluded during backup.

6.   Exclude Network Shares

This setting defines the network share restriction for each backup. When it is applied to a user group, all network shares will be excluded during backup.

12.2   Best Practices for using Group Policy

In order to avoid any confusion and for better AhsayOBS server administration, it is recommended to keep the group policy design as simple as possible:

1. One-to-One relationship between policy and user group. Each policy group should only be applied to one user group.

2. One-to-One relationship between user account and user group. Each user should only belong to one user group.

3. Active user accounts should not be transferred between user groups.

4. New user groups and policies should be thoroughly tested before they are implemented on a production server.

5. A separate policy should be created for each type of policy type.

   E.g. A policy name "AhsayOBS – Read-only Main Menu" for policies that restrict the users to have Read-Only access on main menu.

   E.g. a user group named "AhsayOBS – System User Read-Only Main Menu" for a user group with "AhsayOBS – Read-only Main Menu" policy assigned.

6. The naming conventions for user groups and policies should be meaningful and easily distinguishable. Example: For a new user group called "ACB Premium" group which has some restrictions to the AhsayACB UI interface control and features. The associated policy group would be called "ACB_Premium_UI".

7. Once a user group is operational, i.e. user accounts have been assigned and backups are running according to the policy settings, there should be no further policy changes.

8. For user groups defined with shared quota policy, please make sure the sum of the individual user backup quota does not exceed the shared size. For example, a group with a shared quota policy defined as, shared size of 500GB and maximum percentage of shared size for each user of 25%

(125GB). Should only have a maximum of four backup users assigned to it (125GB x 4 users = 500GB).

9. Extreme caution must be excerised when assigning policies to user groups. As a policy will be effective and enforced as soon as it is assigned to a group, any errors in policy assignments could result in unforseen problems for all members of the affected user group.

10. Any backup user accounts which are using v5.5 AhsayOBM/AhsayACB clients on AhsayOBS v6 should not belong to any user groups. As they are not compatible with group policy features.
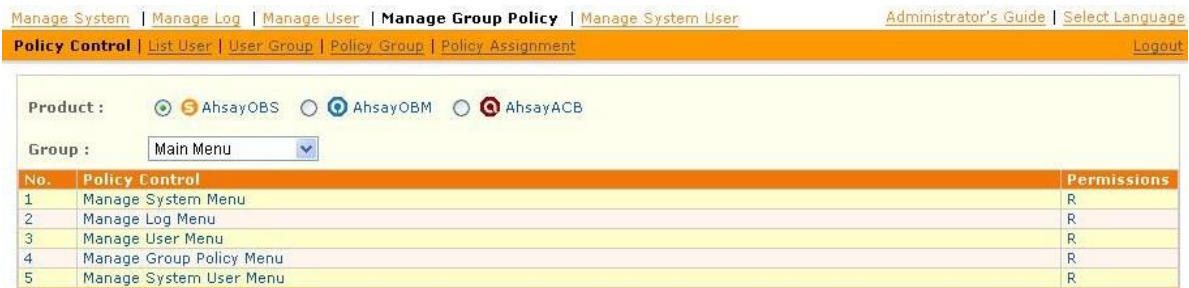
12.3   Group Policy Limitations and Restrictions

1. Each user group is restricted to only one shared quota policy.

2. Each user group is restricted to only one set of Default and Enforcement backupsets for each backupset type.

3. Each backup user account is permitted to have one Default Backup Set and one Enforcement Backup Set for each available Backup Set Type.

4. Only one Global Filter is allowed for each backupset type.

5. A backup user cannot be a member of more than one user group with shared quota policy enabled.

6. Only AhsayOBM and AhsayACB v6 or above clients support group policy.

12.3.1 List Policy Control

There are three main categories for policy control objects AhsayOBS, AhsayOBM, and AhsayACB. Each control object allows the backup server administrator to configure the controls or features which can be accessible or visible to the end user.

All policy control objects can be found in the [Manage Group Policy] -> [Policy Control] Page.
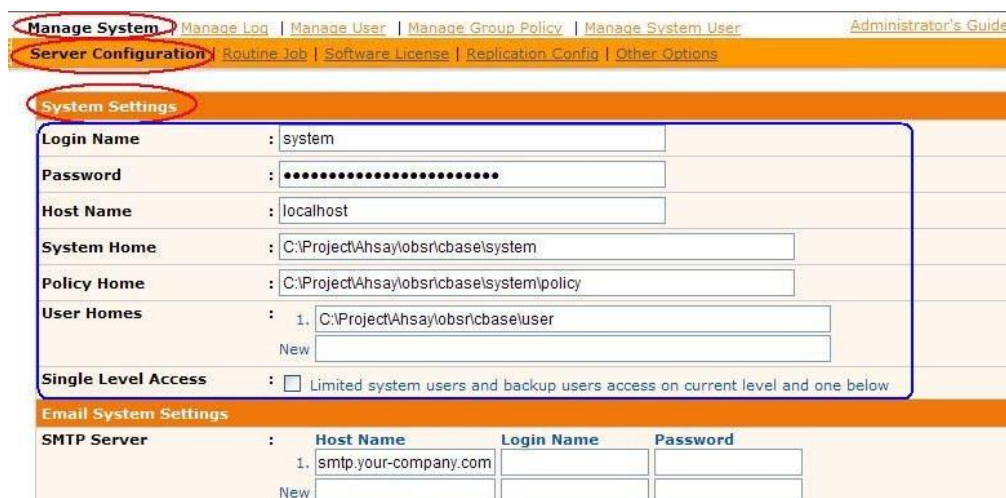
AhsayOBS

A group of policy control objects used to control the behaviour of AhsayOBS. The control area defined on AhsayOBS policy control group is in the format of:

[Menu Name] – [Page Name] – [Section Name] – [Section Detail] (if any)

E.g. The name of the policy to control the System Settings section on Server Configuration page under the [Manage System] menu is:

"Manage System – Server Configuration – System Settings"

AhsayOBM

A group of policy control objects used to control the behaviour of AhsayOBM. The control area defined on AhsayOBM policy control group is in the format of:

[Section Name] – [Section Details] (if any)

E.g. To restrict access to the Recycle Bin under Quota Usage section on the Main Frame, you should edit the settings in this policy:

"Quota Usage – Recycle Bin"
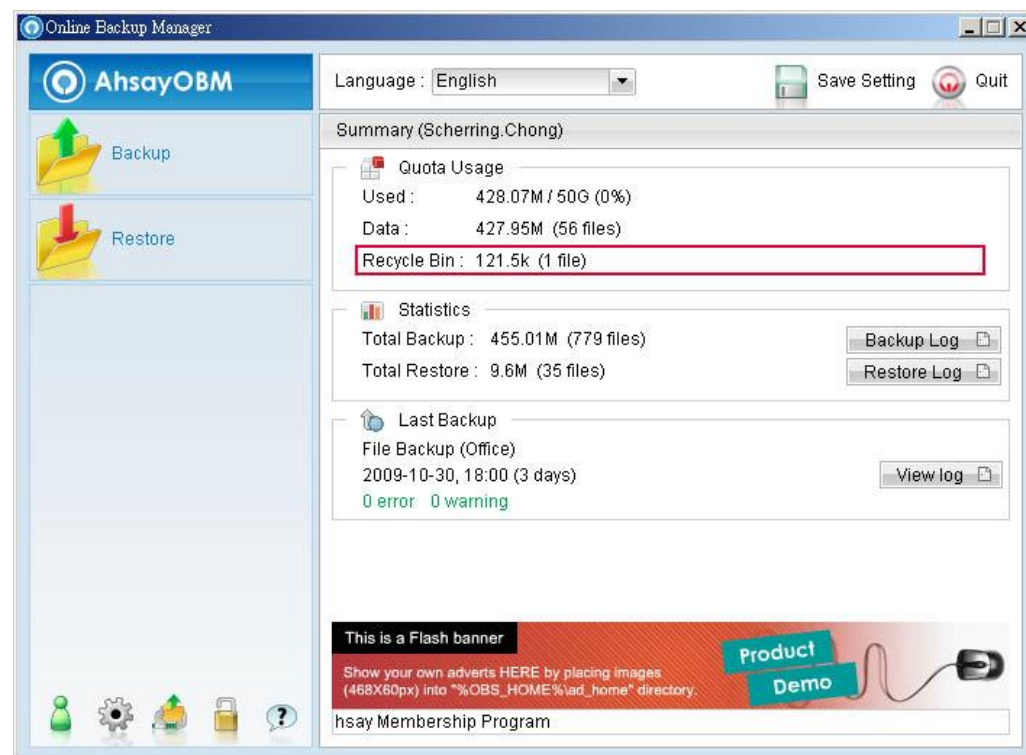
AhsayACB

A group of policy control objects used to control the behaviour of AhsayACB. The control area defined on AhsayACB policy control group is in the format of:

[Section Name] – [Section Details] (if any)

E.g. To restrict access to the Recycle Bin under Quota Usage section on the Main Frame, you should edit the settings in this policy:

"Quota Usage – Recycle Bin"

12.4 User Group

12.4.1 List User

When you click the [Manage Group Policy] -> [List User] Link available at the top menu, the [List User] panel will appear. An overview of user groups and owner on backup can be listed by default backup users are only shown.

The system user list can also be listed by selecting the "System user" radio button near the top menu.

Press the [Login Name] link to show the details of policy groups, user groups and owner on selected backup user. The system user detail can also be viewed by similar way.

12.4.2 Manage User Group

[User Group] panel is used to manage the user group's for both backup users and system users. Please click the [Manage Group Policy] -> [User Group] link to enter the [User Group] panel.

The default view shows the available user groups for "backup user". The user group list for "system user" can also be listed by selecting the "System user" radio button near the top menu.

The user group feature can be used obtain information on how many users accounts have been assign to a user group.

You can use the combo box to list the number of existing user groups defined. After selecting the desired user group all user accounts assigned to this group will be displayed.

Manage System | Manage Log | Manage User | **Manage Group Policy** | Manage System User   Administrator's Guide | Select Language

Policy Control | List User | **User Group** | Policy Group | Policy Assignment   Logout

Owner : --

Type : ● Backup user ○ System user

User Group : LimitQuota   Add   Remove

Name: LimitQuota

Users

Users assigned to this user group [Edit]

No.	Login Name (Alias)	Owner	
1	quota (abc123)	--	🗑
2	test1 ( )	--	🗑
3	test2 ( )	--	🗑
4	test3 ( )	--	🗑

Update   Reset

Key :

Users assigned to this user group   Shows backup users assigned to this user group.

Create user group

Please follow the instructions below to create a user group:

1. Go to the [User Group] panel.

2. Select the user group type, i.e. Backup user or System user.

3. Press the [Add] button.

4. Change the default name to a more descriptive user group name.

5. Press the [Updated] button to complete the process.

Remove an existing user group

To remove a user group, please do the followings:

1. Go to the [User Group] panel.

2. Select the user group from the drop down list.

3. Press the [Remove] button to remove the user group.

WARNING:

The remove user group feature will remove the selected user group from AhsayOBS even if:

> **i.   There are active user accounts assigned to the group**
> **ii.   There are active policies assigned to the group**

All member user accounts upon removal of the user group will be automatically unassigned. Once unassigned, the user accounts will retain the policy restrictions of the removed user group.

It is strongly recommended prior to removing a user group, to ensure that all member user accounts are re-assigned first.

Assign Users to a user group

Please follow the instructions below to assign users to a specific user group:

1. Go to the [User Group] panel.

2. Select a user group from the dropdown box.

3. Click the [Assign users] link located in the [Users] section to go to the user list. This option is only shown when the list is empty.

4. If the list is not empty, please click on the [Edit] link in the [User] section.

5. Select users from the user list by checking the checkboxes and vice versa.

6. Press the [Update] button to add selected backup users to backup user group.

<u>Remove Users from a user group</u>

To remove users from a user group, please do the followings:

1. Go to the [User Group] panel.

2. Select a user group from the dropdown box.

3. Press the 🗑 link next to the backup user you would like to remove or press the [Edit] link located in the [Users] section to enter the user list section.

Note:

You can use the alphabet categories at the top of the backup user list to limit the list to show only those backup users whose login name starting with a certain alphabet. You can also user the [Owner] link to limit the listing to show backup users belong to the selected owner.

12.5   Policy Group

12.5.1 Manage Policy Group

When you click the [Manage Group Policy] -> [Policy Group] link available at the top menu, the [Policy Group] form will appear. This is used to define policies for backup users or system users.

The default view shows the available Policy Groups for "backup user". The Policy Groups list for "system user" can also be listed by selecting the "System user" radio button near the top menu.

Manage System	Manage Log	Manage User	**Manage Group Policy**	Manage System User	Administrator's Guide	Select Language
Policy Control	List User	User Group	**Policy Group**	Policy Assignment		Logout

Owner : --

Type : ◉ Backup user   ○ System user

Policy Group : Policy Group - PG ▼   [Add] [Remove]

Name : Policy Group - PG

☐ **Exclude File Size Over** [0] MB
☐ **Exclude Network Share**

Shared Quota Setting	Show Options ☒
Backup Set Setting	Show Options ☒
Policy Control Setting	Show Options ☒
Global Filter Setting	Show Options ☒

[Update] [Reset]

Key :

Shared Quota Setting	The disk quota shared by all users. If it is enabled, backup is stopped if the total disk usage of users in this group exceeds the specified quota or the total disk space of this user group. A user can only be assigned to one group with this feature enabled.
Backup Set Setting	Each user group can have one backup set type and one operations system of default backupset for AhsayOBM and AhsayACB users. Each user group can have one backup set type of enforcement backupset for AhsayOBM and AhsayACB users. When enforcement backup set is used, the existing backup set of AhsayACB user will be overwritten by the enforcement backup set.
Policy Control Setting	the policy control assigned to users
Global Filter Setting	Each user group can have one backup set type and one operations system of global filter for AhsayOBM and AhsayACB users. When global filter is used, the existing filters in the backup sets will be overwritten by the global filter.
Exclude File Size Over	File size over the threshold will be excluded. The restriction applies to all backup sets.
Exclude Network Share	All network shares will be excluded. The restriction applies to all backup sets.

<u>Create a policy group</u>

To create a new policy group, please do the followings:

1.   Go to the [Policy Group] form.

2.   Select the backup user type, i.e. Backup user or system user

3.   Change the name to a more descriptive policy group name.

4.   Press the [Update] button to save the changes.

<u>Remove an existing policy group</u>

Please do the followings to remove a policy group:

1.   Go to the [Policy Group] form.

2.   Select the policy group from the drop down list.

3.   Press the [Remove] button to remove the policy.

Below is a table showing the available policy types that can be assigned to a policy group.

Policy Group Type	Available Policy Types
Backup User	- Shared Quota Policy Control - Backup Set Setting Policy Control - Backup User Policy Control - Global Filter Policy Control - Exclude File Size Over Policy Control - Exclude Network Share Policy Control
System User	- Share Backup Users Policy Control - System User Policy Control

12.5.2 Shared Quota Policy

Shared Quota Policy is available for Backup User Policy Group only. It is used to define a maximum storage limit for a particular group, which is evenly allocated to each individual backup user within the group. Each backup user is allocated a fixed percentage of the total storage limit.

The advantage of using a share quota policy is it will simplify user home storage management. For example, if users for a group where assigned an individual user home drive, this setting will ensure the backup users cannot user more disk space than is physically available on the drive.

Assign Shared Quota Policy to a policy group

1. Go to the [Policy Group] form.

2. Select a Backup User Policy Group from the drop down list.

3. Click the [Show Options] link at the right side of the [Shared Quota Setting] section. The information of shared quota policy will be shown.

4. Check the checkbox next to the [Disk quota share].

5. Fill in the [Shared Size] and [Maximum percentage of shared size for each user] field.

6. Press [Update] button to save the changes.

Reset Disk quota share

1. Go to the [Policy Group] form.

2. Select a Backup User Policy Group from the drop down list.

3. Click the [Show Options] link at the right side of the [Shared Quota Setting] section. The information of shared quota policy will be shown.

4. Uncheck the checkbox next to the [Disk quota share] to reset it to default.

5. Press [Update] button to update the changes.

When implementing a shared quota policy, you need to take into account any additional users assigned to the group will result in the reduction of backup quota for existing users and therefore impact on the backups operation of

these users. So the "shared size" will have to be adjusted in order to ensure sufficient space for the additional users.

For example, if "Group VIP" was assigned a shared size of 100GB, with a maximum percentage of 20% for each user in the group. Initially 5 AhsayOBM users are assigned to Group VIP, the backup quota for each individual user will be 20GB. For this setup each user can fully utilize their individual backup quotas without affecting others in the group.

But if another 5 users were assigned to Group VIP, they too will be allocated 20GB each of backup quota. This will mean if all users fully utilize their backup quota's (10 users X 20GB = 200GB), it will exceed the shared size of 100GB. In this scenario, the first 5 backup users to who fully utilize their backup quotas, will cause the other 5 users backup jobs to fail with a *"Group Quota Exceeded. Please contact us to increase your quota."* error.

12.5.3 Backup Set Setting Policy

Backup Set Setting Policy is available for Backup User Policy Group only. It is used to pre-define the backup settings for backup users. This helps to pre-fill backup settings when backup users creates a new backup set (called "Default Backup Set") whereas other helps to enforce backup setting to backup users. This is known as an "Enforcement Backup Set".
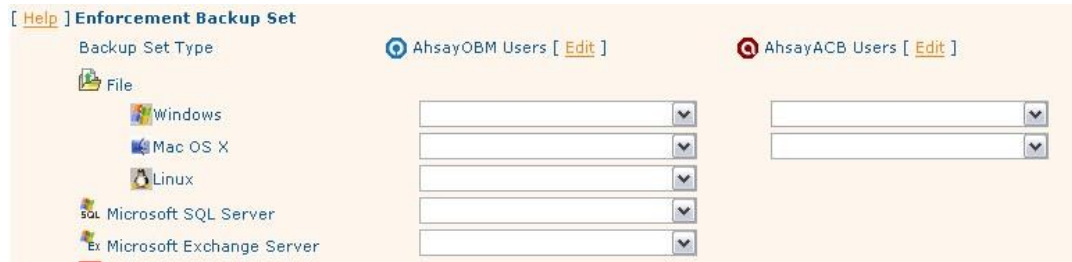
Default Backup Set

Note:

User cannot assign a higher level default backup set to a lower level policy group, i.e. If a user (User1) is created by a sub-admin role system user, and there is a default backup set policy (Policy 1) created by a admin role system user. "Policy 1" cannot be assigned to User1.

Enforcement Backup Set

Create a Pre-defined Backup Setting Policy

1.   Go to the [Policy Group] form.

2.   Select a Backup User Policy Group from the drop down list.

3.   Click the [Show Options] link at the right side of [Backup Set Setting] section to show the information of [Default Backup Set] and [Enforcement Backup Set] sub-sections.

4.   If you are going to create a "Default Backup Set", click the [Edit] link next to [AhsayOBM Users] or [AhsayACB Users] in the [Default Backup Set] sub-section to show the default backup set form. Otherwise, click the [Edit] link next to the [AhsayOBM Users] or [AhsayACB Users] in the [Enforcement Backup Set] sub-section to show the enforcement backup set form.

5.   Click the [Add] button to create a new backup set.

6.   Fill in the necessary field(s) in the backup set form and click the [Update] button to save the changes.

Remove a Pre-defined Backup Setting Policy

1. Go to the [Policy Group] form.

2. Click the [Show Options] link at the right side of [Backup Set Setting] section to show the information of [Default Backup Set] and [Enforcement Backup Set] sub-sections.

3. To delete a "Default Backup Set" setting, click the [Edit] link next to [AhsayOBM Users] or [AhsayACB Users] in the [Default Backup Set] sub-section. Otherwise, click the [Edit] link next to [AhsayOBM Users] or [AhsayACB Users] in the [Enforcement Backup Set] sub-section.

4. Select the backup set from the drop down list.

5. Click the [Remove] button to remove it from the system.

<u>Assign a Pre-defined Backup Set to a Default Backup Setting policy</u>

1. Go to the [Policy Group] form.

2. Click the [Show Options] link at the right side of [Backup Set Setting] section to show the information of [Default Backup Set] and [Enforcement Backup Set] sub-sections.

3. Select the pre-defined backup set from drop down.

4. Click the [Update] button to save the changes.

12.5.4 Backup User Policy Control

Backup User Policy Control is available to Backup User Policy Group only. It is used to restrict the backup users' access privileges on AhsayOBS, AhsayOBM and AhsayACB. By default, full access privilege is granted. A summary of access permission is listed below:

Permission	Meanings
R	Read
W	Write
E	Execute
D	Delete

Edit Policy Control

1. Go to the [Policy Control] form.

2. Click the [Show Options] link at the right side of [Policy Control Setting] section to show the permission information on [AhsayOBS], [AhsayOBM] and [AhsayACB] sub-sections.

3. Click the [Edit] link next to the [Group] drop down list to go to the policy control selection.

4. Select the Policy Control that you would like to edit by checking the checkbox on the left side of the Policy Control ID, and the corresponding RWXD checkboxes will be enabled.

5. To assign access permission to a Policy Control, select/de-select the checkbox under the RWXD section.

Policy Type	Permission
Read-only	R
Editable	RW
Editable and Executable	RWE
Modifiable	RWD
Full	RWED
Hidden	All checkboxes are unchecked

6. Click the [Update] button to save the changes.

Remove Policy Control

Policy Group:		Policy Group - Backup User Policy					
Owner :		--					
Type :		Backup user					
Product :		🟠 AhsayOBS					
Group :		User-User Profile					
☐	No.	Policy Control		R	W	X	D
☐	1	Manage User-User-User Profile Menu					
☐	2	Manage User-User-User Profile-User Summary					
☐	3	Manage User-User-User Profile-Alias					
☐	4	Manage User-User-User Profile-Language					
☐	5	Manage User-User-User Profile-Timezone					
☐	6	Manage User-User-User Profile-Contact					
☐	7	Manage User-User-User Profile-Add-on Modules					
☐	8	Manage User-User-User Profile-Quota					
☐	9	Manage User-User-User Profile-Update Reset Button					
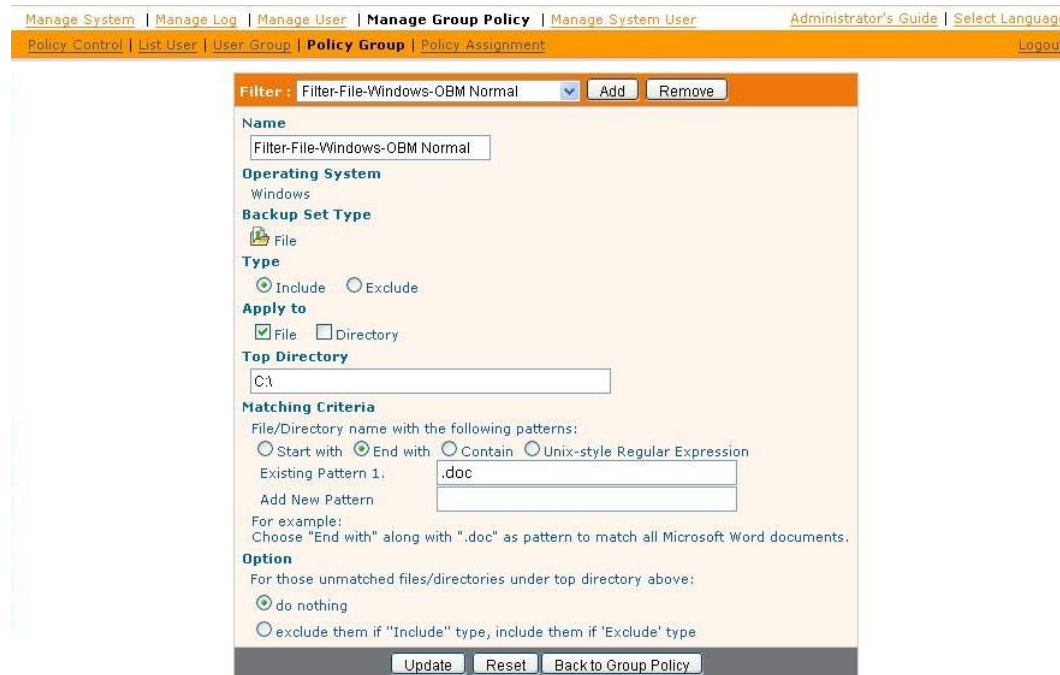
Update   Back

1.   Go to the [Policy Control] form.

2.   Click the [Show Options] link at the right side of [Policy Control Setting] section to show the permission information on [AhsayOBS], [AhsayOBM] and [AhsayACB] sub-sections.

3.   Press the 🗑 link next to the policy control that you would like to remove.

4.   The Policy Control is now removed from the system.

12.5.5 Global Filter Policy

Global Filter Policy is applied to system users only. It is used to set pre-defined backup filter to backup users.

Create global filter policy

1.   Go to the [Policy Control] form.

2.   Click on the [Show Options] link in the [Global Filter] section.

3.   Click the [Edit] link next to [AhsayOBM Users], [CDP Filter for OBM Users] or [AhsayACB Users].

4.   Click the [Add] button to create a new policy.

5.   Select the [Operating System] and [Type], then press the [Update] button.

6.   Fill in the required information shown in the page.

7.   Press the [Update] button to save the changes.

Delete global filter policy

1. Go to the [Policy Group] panel.

2. Click the [Edit] link next to [AhsayOBM Users], [CDP Filter for OBM Users] or [AhsayACB Users].

3. Select the policy from the drop down box.

4. Press [Remove] button to remove it from the system.

12.5.6 Exclude File Size Over Policy

Exclude File Size Over Policy is available for Backup User Policy Group only. It is used to define a file size restriction during backup for a particular group, which is allocated to each individual backup user within the group. Files in all backup sets under the backup user will be restricted.

Assign Exclude File Size Over Policy to a policy group
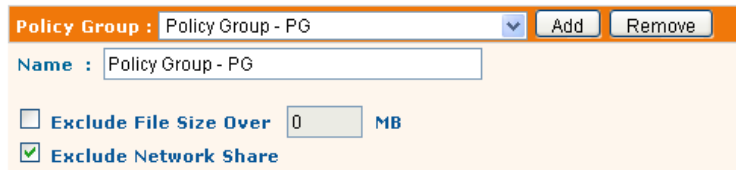
1. Go to the [Policy Control] form.

2. Select a Backup User Policy Group form the drop down list.

3. Check the checkbox next to the [Exclude File Size Over].

4. Fill in the [Exclude File Size Over] field.

5. Press [Update] button to save the changes.

Reset Exclude File Size Over Policy

1. Go to the [Policy Group] form.

2. Select a Backup User Policy Group from the drop down list.

3. Uncheck the checkbox next to the [Exclude File Size Over] to reset it to default.

4. Press [Update] button to update the changes.

12.5.7 Exclude Network Share Policy

Exclude Network Share Policy is available for Backup User Policy Group only. It is used to define network shares restriction during backup for a particular group, which is allocated to each individual backup user within the group. Network shares in all backup sets under the backup user will be restricted.

Assign Exclude Network Share Policy to a policy group

1. Go to the [Policy Group] form.

2. Select a Backup User Policy Group from the drop down list.

3. Check the checkbox next to the [Exclude Network Share].

4. Press [Update] button to save the changes.

Reset Exclude Network Share Policy

1. Go to the [Policy Group] form.

2. Select a Backup User Policy Group from the drop down list.

3. Uncheck the checkbox next to the [Exclude Network Share] to reset it to default.

4. Press [Update] button to update the changes.

12.5.8 Shared Backup User Policy

Shared Backup User Policy is only available to System Users Policy Group. It helps Sub Admin role system users to share their backup users provided they are under the same creator.

Edit Shared Backup User Policy

1.   Go to the [Policy Group] panel.

2.   Select the system user radio button for the user type.

3.   Click the [Show Options] link in the [Shared Backup Users Setting] section to show the information of shared backup user policy.

4.   Check the [Backup User Share] checkbox to share the backup users, uncheck it to reset to default.

5.   Press the [Update] button to update the change.

12.5.9 System Users Policy Control

The System User Policy Control is available to System User Policy Group only. It is used to restrict the system users' access privileges on AhsayOBS. By default, full access privilege is granted. A summary of access permission is listed below:

Permission	Meanings
R	Read
W	Write
E	Execute
D	Delete

Edit Policy Control

1. Go to the [Policy Control] form.

2. Select [System User] radio button.

3. Click the [Show Options] link at the right side of [Policy Control Setting] section to show the permission information on [AhsayOBS] sub-sections.

4. Click the [Edit] link next to the [Group] drop down list to go to the policy control selection.

5. Select the Policy Control that you would like to edit by checking the checkbox on the left side of the Policy Control ID, and the corresponding RWXD checkboxes will be enabled.

6. To assign access permission to a Policy Control, select/de-select the checkbox under the RWXD section.

Policy Type	Permission
Read-only	R
Editable	RW
Editable and Executable	RWE
Modifiable	RWD
Full	RWED
Hidden	All checkboxes are unchecked

7. Click the [Update] button to save the changes.

Remove Policy Control

1. Go to the [Policy Control] form.

2. Select the [System User] radio button.

3. Click the [Show Options] link at the right side of [Policy Control Setting] section to show the permission information on [AhsayOBS] sub-sections.

4. Press the 🗑 link next to the policy control that you would like to remove.

5. The Policy Control is now removed from the system.

13 Delta Merge Technology

13.1 Introduction

The delta merge feature combines the full, differential, and incremental delta files on AhsayOBS into a single full file. The advantage of using delta merge is it will speed up the restore of files. As a single (merged) file full can be restored faster than a file consisting of full plus related incremental files, which will require a lengthy merging process after restoring to a client machine.

Delta merge applies to full, differential, and incremental delta files which reside in the **data area only**. The criteria for file merging is governed by the retention policy setting for the backupset, delta merge will not work if there is more than one encryption key in use for a backup set. It is supported by AhsayOBM/AhsayACB v6.3 or above clients, there is no delta merging feature for Local Copy backups.

The delta merge of differential delta with the full file, will only apply if there are incremental delta files present in the delta chain.

13.2 Delta Merge Policy

The delta merge process relies on the retention policy setting to decide when to merge delta files with the full file. But delta merge does not apply to files in the retention area. Any backup sets configured with advanced or customized retention policy settings cannot use the delta merge feature.

Any reference to retention policy in the context of delta merge implies delta merge policy. As backupsets enabled with delta merge share a single setting, any changes in retention policy will impact on the availability of snapshots that can be restored from both data and retention area. Before enabling the delta merge feature please review your data restore requirements carefully.

13.3 Delta Merge Process

A delta merge will take place after a backup job is completed, AhsayOBM/AhsayACB will only initiate a delta merge request at the end of a backup job. As part of the request, AhsayOBM/AhsayACB will upload a copy of the backupset encryption key to AhsayOBS which is hashed for security purposes. Once a merge request is received by AhsayOBS it will be placed in the "delta merge queue", the information in the delta merge queue only exists in memory for security purposes.

A background job will scan all the files in the backup set. If the file is an incompleted file, the file wil be skipped and the file will not be merged. AhsayOBS will not change or delete the file. The file will not be marked as bad. The process will also identify any delta files that are out of retention

period and merge them with the full file, this process handles one merge operation at a time.

When AhsayOBS processes a file merge request, the merge process will be carried according to the retention policy. Each delta merge operation is recorded in the AhsayOBS system logs. The following is an example of delta merge activity which is recorded under [Manage System] -> [Manage Log] -> [System Log].

[info][system][Thread][Job][MergeDelta] Start merging delta files in backup set 'b1' of user 'test0914'.
[info][system][Thread][Job][MergeDelta] Merging delta file 'C:\TestDM0914.txt' in backup set 'b1' of user 'test0914' , Backup Job='2011-09-14-17-13-50', DataSize(compressed)='2k'
[info][system][Thread][Job][MergeDelta] Merged delta files in backup set 'b1' of user 'test0914' successfully.
[info][system][Thread][Job][MergeDelta] Finished merging delta files in backup set 'b1' of user 'test0914'.

Although, delta merge requests are submitted to AhsayOBS immediately after the completion of a backup job. In some situations it could take a few days before a merge request is finally processed. The actual execution of the merge requests is dependent factors such as:

i.   The number of backupsets with delta merge enabled.
ii.   The number of requests pending in the merge queue.
iii. The type and size of full and delta files which are pending to be merged, i.e. ESXi, Hyper-V, Shadow Protect backupsets which may take longer to merge.
iv.   Performance of your AhsayOBS server

13.4   Delta Merge Queue

The delta merge queue stores the details of each merge request made by AhsayOBM/AhsayACB client at the end of each backup job. In order to enhance security, from AhsayOBS v6.5.4.0 onwards, the delta merge queue will be held in memory only.

Each delta merge queue record includes the following information:

i.   backup user account
ii.   backup set ID
iii.   hashed encryption key
iv.   owner (the sub admin account which created the backup user if applicable)

Once a job in the delta merge queue is completed, the request will be immediately removed from the merge queue. AhsayOBS will then process the next request in the queue.

WARNING:

As the delta merge queue is only held in memory, if the AhsayOBS service is restarted or stopped, any pending delta merge requests will be lost. These delta merge jobs for the affected backup sets will

only be processed on the next backup job, when AhsayOBM/AhsayACB submits a new delta merge request.

13.5 Limitations

Differential Delta File Merge

The delta merge of differential delta files with the full file, will only apply if there are incremental delta files present in the delta chain. Therefore, no delta merge will take place for backup sets with delta merge enabled and in-file delta set to "Differential".

Advanced or Customized Retention Policy

Any backup sets which are configured with advanced or customized retention policy settings cannot use the delta merge feature.

This restriction is enforced on AhsayOBM, if delta merge is enabled on a backup set with advanced retention policy already configured or if you attempt to apply an advanced retention policy setting to a backup set with delta merge enabled. The following error messages will be displayed by AhsayOBM:
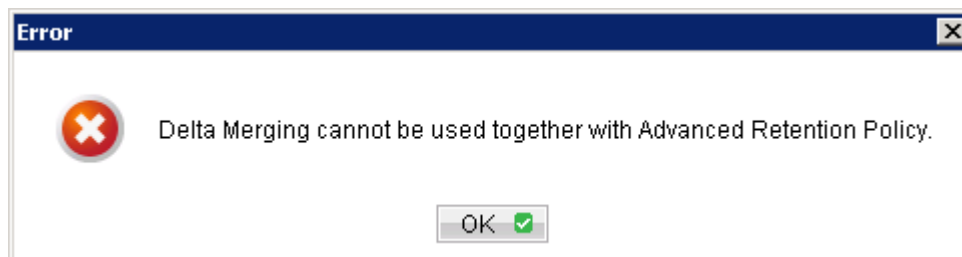
AhsayACB

For AhsayACB user accounts the in-file delta and delta merge features are still dependent on AhsayOBS global settings, under [Manage System] -> [Other Options] -> [In-file delta settings for all AhsayACB users]. Therefore, all AhsayACB users are limited to either using delta merge or traditional incremental/differential delta model.

When the delta merge option is enabled and the in-file delta type "Differential" is selected. **The Delta merge feature will not merge differential delta files with the full file**.

Delta merge will only work if there are pre-exisitng incremental delta files in the delta chain. Once the incremental delta files are merged, the delta merge feature will no longer merge the remaining differential delta files with the full file.

It is recommended to set the in-file delta type as "Incremental" for AhsayACB users.

AhsayOBS Storage

Even though the delta merge job processes one backupset at a time. For delta merge enabled backupsets which contain very large files, i.e. Exchange, MS SQL, Domino, Oracle , MS System backup, Windows 2008 SystemState, ShadowProtect, ESXi, and Hyper-V. **It is strongly recommended user home drives containing these backup sets should maintain at least 30% to 40% free disk space. As the delta merge needs to generate a temporary merged full file on the user home drive during this process. If the user home runs out of disk space, it could result in corruption temporary merged file, in the worse case the data of any other active backup sets could also be compromised.**

13.6   Delta Merge Examples

The following is some simple examples to demonstrate the functionality of the delta merge feature:

<u>Example 1:</u>

The example below shows how delta files are merged into full file using a retention policy (delta merge policy) setting defined as 4 jobs for this backup set.

A full backup file is stored into data area (F) uploaded by Job 1, followed by incremental delta files I_1, I_2, I_3, and I_4. On the completion Job 5 (I_4), AhsayOBM/AhsayACB will trigger a delta merge background job to execute the file merging. When the AhsayOBS delta merge job runs $F + I_1$ will be merged to become a "merged" full file. The data area now contains 4 snapshots including merged full file after file merging.

Retention Policy = 4 Jobs (Delta Merge Policy)

Job 1 = F
Job 2 = I_1
Job 3 = I_2
Job 4 = I_3
Job 5 = I_4 (delta merge initiated)

After job 5 AhsayOBM/AhsayACB will initiate a delta merge for Job 1 & Job 2 files.

F (F + I_1) merged full file
I_2
I_3
I_4

Example 2:

The example below shows how delta files are merged into full file using a retention policy (delta merge policy) setting defined as 7 days for this backup set.

A full backup file is stored into data area (F) uploaded on Day 1, followed by incremental delta files I_1, I_2, I_3, I_4, I_5, I_6, I_7, and I_8,. On the completion of the backup job on Day 9 (I_8), AhsayOBM/AhsayACB will trigger a delta merge background job to execute the file merging. When the AhsayOBS delta merge job runs F + I_1 will be merged to become a "merged" full file. The data area now contains 8 snapshots including merged full file after file merging.

Retention Policy = 7 Days (Delta Merge Policy):

Day 1 = F
Day 2 = I_1
Day 3 = I_2
Day 4 = I_3
Day 5 = I_4
Day 6 = I_5
Day 7 = I_6
Day 8 = I_7
Day 9 = I_8 (delta merge initiated)

After job on day 9 AhsayOBM/AhsayACB will initiate a delta merge for Day 1 & Day 2 files. As the incremental file I_1 has exceeded the 7 day retention policy setting.

F (F + I_1) merged full file
I_2
I_3
I_4
I_5
I_6
I_7
I_8

Example 3:

The example below shows how differential and incremental delta files are merged into full file using a retention policy (delta merge policy) setting defined as 4 jobs for this backup set.

A full backup file is stored into data area (F) uploaded by Job 1, followed by incremental and differential delta files I_1, I_2 I_3 and D_1.
Retention Policy = 4 Jobs (Delta Merge Policy)
Job 1 = F
Job 2 = I_1
Job 3 = I_2
Job 4 = I_3
Job 5 = D_1 (delta merge initiated)

After Job 5 AhsayOBM/AhsayACB will initiate a delta merge for Job 1 & Job 2. Unfortunately, diferential delta D_1 is found in delta chain, this creates delta merge stoppage, the files in Job 1 and Job 2 will not be merged.

The backup job continues with subsequent incremental backups (I_4, I_5 and I_6).

Job 1 = F
Job 2 = I_1
Job 3 = I_2
Job 4 = I_3
Job 5 = D_1 (delta merge is initiated and stopped)
Job 6 = I_4 (delta merge is initiated and stopped)
Job 7 = I_5 (delta merge is initiated and stopped)
Job 8 = I_6 (delta merge is initiated)

After Job 8 AhsayOBM/AhsayACB will initiate a delta merge, AhsayOBS will merge the full file (F) uploaded in Job 1 with the differential delta D_1 uploaded in Job 5 to form the new full file (As the D_1 differential includes changes in $I_1 + I_2 + I_3$). The incremental files $I_1 + I_2 + I_3$ will be moved to the retention area, as they have already exceeded the retention policy of 4 jobs. These files will be purged on the next retention policy job.

After the delta merge has completed the follow files will be available for restore.

F (F + D_1)
I_4
I_5
I_6

Example 4:

The example below shows how delta merge handles multiple differential delta files using a retention policy (delta merge policy) setting defined as 4 jobs for this backup set.

A full backup file is stored into data area (F) uploaded by Job 1, followed by incremental and differential delta files I_1, I_2 I_3 and D_1.
Retention Policy = 4 Jobs (Delta Merge Policy)

Job 1 = F
Job 2 = I_1
Job 3 = I_2
Job 4 = I_3
Job 5 = D_1 (delta merge initiated)

After Job 5 AhsayOBM/AhsayACB will initiate a delta merge for Job 1 & Job 2. Unfortunately, diferential delta D_1 is found in delta chain, this creates delta merge stoppage, the files in Job 1 and Job 2 will not be merged.

The backup job continues with subsequent differential delta backups (D_2 and D_3) and incremental delta backups (I_4, I_5, and I_6).

Job 1 = F
Job 2 = I_1
Job 3 = I_2
Job 4 = I_3
Job 5 = D_1 (delta merge is initiated and stopped)
Job 6 = D_2 (delta merge is initiated and stopped)
Job 7 = D_3 (delta merge is initiated and stopped)
Job 8 = I_4 (delta merge is initiated and stopped)
Job 9 = I_5 (delta merge is initiated and stopped)
Job 10 = I_6 (delta merge is initiated)

After Job 10 AhsayOBM/AhsayACB will initiate a delta merge, AhsayOBS will merge the full file (F) uploaded in Job 1 with the latest differential delta D_3 uploaded in Job 7 to form the new full file (As the D_3 differential includes changes in $I_1 + I_2 + I_{3\,+}\,D_1 + D_2$). The files $I_1 + I_2 + I_{3\,+}\,D_1 + D_2$ will be moved to the retention area, as they have already exceeded the retention policy of 4 jobs. These files will be purged on the next retention policy job.

After the delta merge has completed the follow files will be available for restore.

F (F + D_3)
I_4
I_5
I_6

Example 5:

The example below shows how delta merge handles multiple differential delta files with different compression type.

A full backup file is stored into data area (F) uploaded by Job 1, followed by incremental and differential delta files I_1, and I_2.
Retention Policy = 3 Jobs (Delta Merge Policy)

Job 1 = F (Fast Compression)
Job 2 = I_1 (Normal Compression)
Job 3 = I_2 (No Compression)
Job 4 = I_3 (Fast Compression, delta merge initiated)

After Job 4 the backup application will initiate a delta merge for Job 1 & Job 2.

When F merged with I_1 , the new merged file F+ I_1 will be using Normal Compression,

On the next backup, a new delta file is uploaded and delta merge initiated for Job 2 & Job 3.

Job 2 = $(F + I_1)$ (Normal Compression)
Job 3 = I_2 (No Compression)
Job 4 = I_3 (Fast Compression)
Job 5 = I_4 (Normal Compression, delta merge initiated)
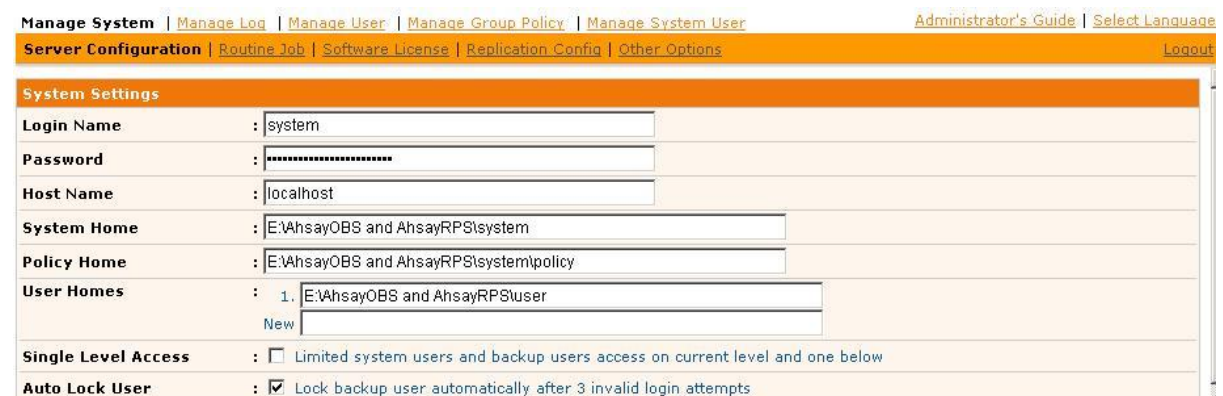
The new merged file F+ I_1 + I_2 will not use any compression. In conclusion, the compression type will be updated to the last incremental file in the merge list.

14 Account Lockout

When the account lockout feature is enabled, a backup user account will be locked after three consecutive failed login attempts. The account lockout restriction applies unsucessful logins via AhsayOBS web console, AhsayOBM, AhsayACB, and AhsayRDR web console. The account lockout restrictions do not apply to "system", "sub admin", and "non admin" account types. **To enhance security on AhsayOBS, the account lockout feature is enabled by default**.

14.1 Configuration
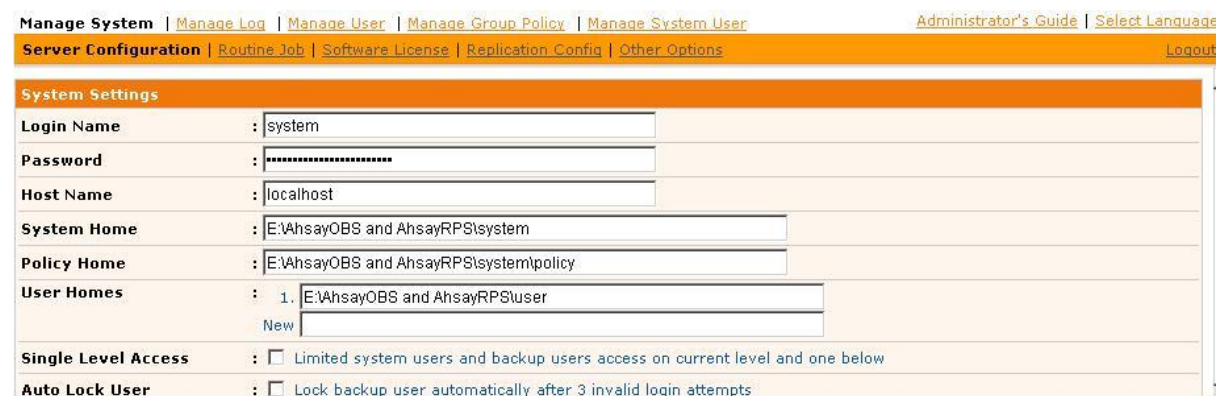
The status of the account lockout feature is shown in the AhsayOBS web console under the [Manage System] -> [Server Configuration] -> [Auto Lock User].

To disable the AhsayOBS account lockout feature, simply uncheck the "Auto Lock User" setting and press the [Update] button. This setting will be effective immediately.

Even though the account lockout feature is disabled, any backup user accounts which were locked prior to the disabling of this feature will still remain locked. These backup user accounts will have to be enabled by either a "system" or "sub admin" user.

Note:

For AhsayRDR implementations, the account lockout configuration must be aligned on all member AhsayOBS servers.

14.2   Account Lockout Rules

For each unsuccessful login attempt via AhsayOBS web console, AhsayRDR web console, AhsayOBM, or AhsayACB. The account lockout counter will increase by 1. After three consecutive unsuccessful login attempts the backup user account will be locked.

The account lockout counter will reset to zero if one of the following conditions are met:

- User logs on successfully via AhsayOBS web console, AhsayOBM/AhsayACB or AhsayRDR web console.
- Change the user [Status] from "Locked" to "Enabled" or "Suspended" in [Manage User] -> [User Profile] page.

The "system" or "sub admin" users cannot manually lock a backup user account. An account lockout can only be triggered by consecutive failed login attempts.

Once an account is locked, all AhayOBM/AhsayACB client scheduler(s) and CDP service(s) connecting to AhsayOBS using the locked account will automatically be stopped, they will not re-connect to AhsayOBS again until after another six hours, even if the affected account is enabled immediately.

WARNING:

If there are any backup jobs which are scheduled to start within this six hour period they will not be run, these jobs will be classified as a missed backups.

If you wish to minimize the problem of missed backups, you can consider restarting the AhsayOBM/AhsayACB scheduler and CDP services on all affected client machines after affected user account is unlocked.
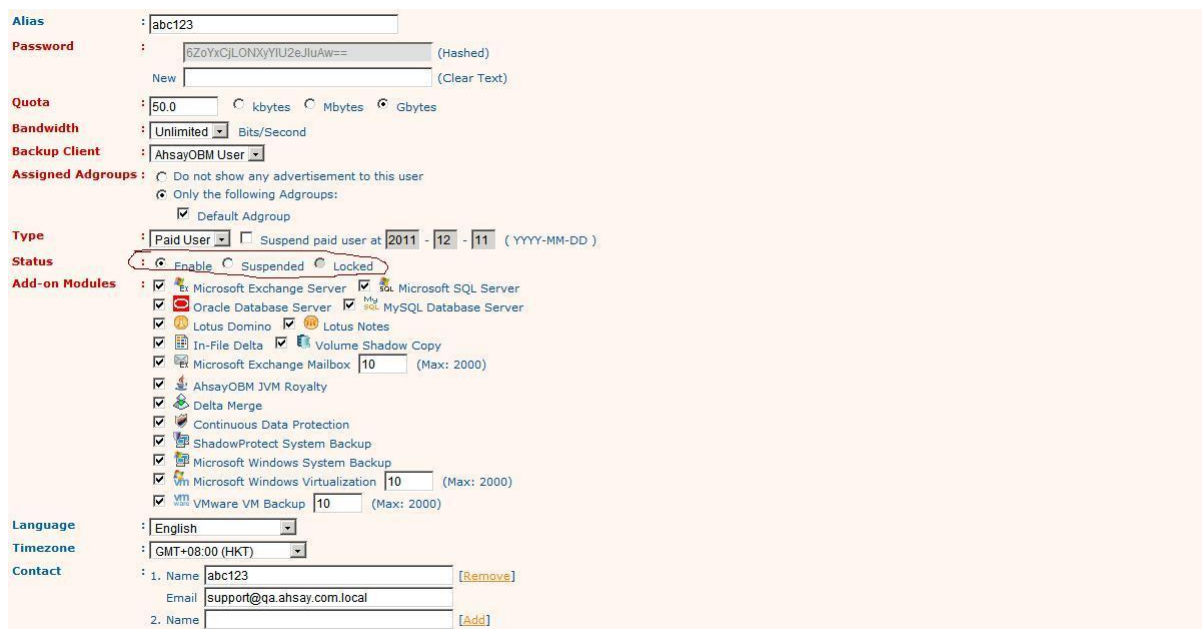
When a user account is locked after 3 unsuccessful login requests or if the account is suspended by the AhsayOBS administrator. All active backup job under the user account will be stopped immediately.

14.3   Unlocking Accounts

Once a backup user account is locked it can only be enabled by either a "system" or "sub admin" user.

To reset the status of a "Locked" backup user, please do the following:

1.   Login to AhsayOBS Web Administration Console using a "system" or "sub admin" user account.

2.   Go to [Manage Users] -> [List User] page.

3.   Find the backup user from the user list and click on the username to view [User Profile].

4.   Change the [Status] by checking the [Enable] radio button.

5.   Click [Update] to apply the change.

14.4   Account Lockout on AhsayOBS/AhsayRDR

The following is an example of what is displayed when there is an incorrect user login attempt via AhsayOBS web console.
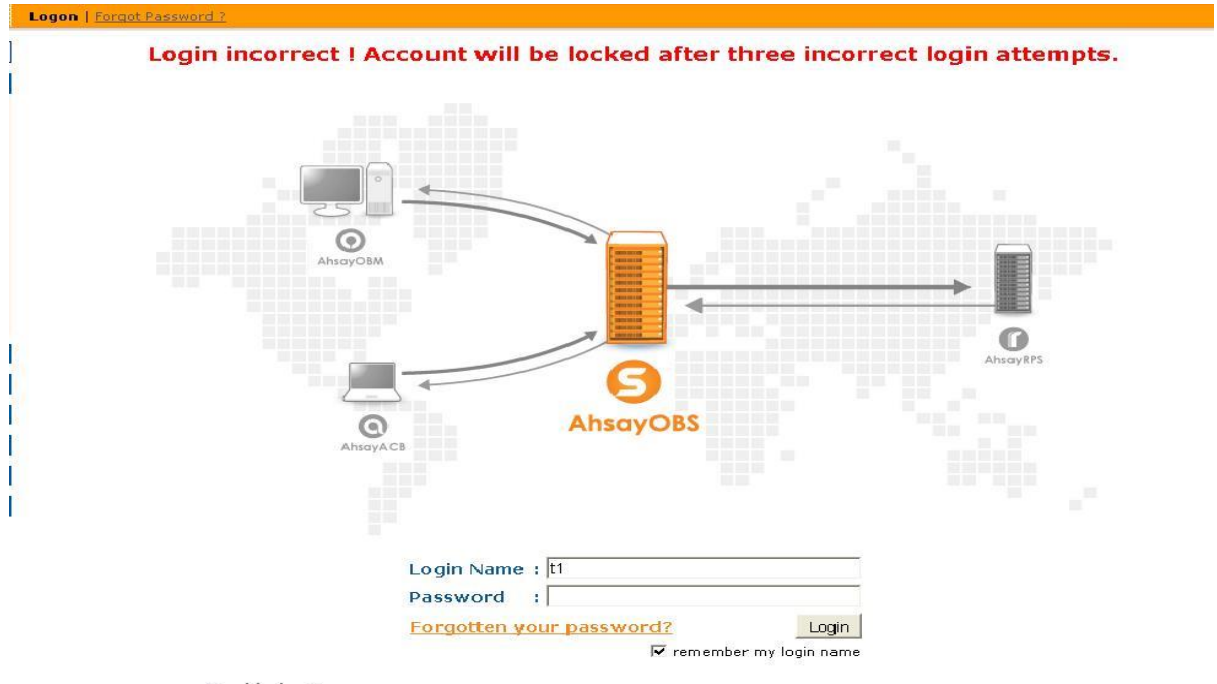
After three consecutive incorrect login attempts the user account will be automatically locked.
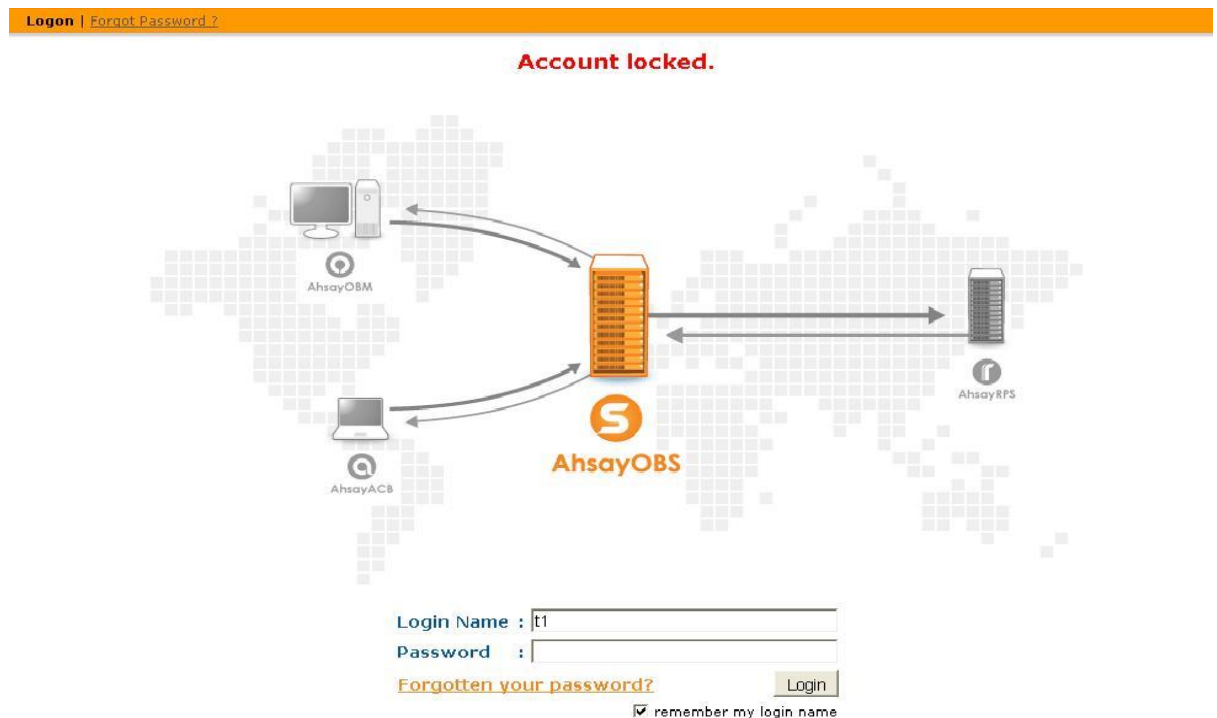
14.5   Account Lockout on AhsayOBM/AhsayACB

The following is an example of what is displayed when there is an incorrect user login attempt via AhsayOBM or AhsayACB client.

After three consecutive incorrect login attempts the user account will be automatically locked. The following dialog box will be displayed on the client machine.

AhsayOBM/AhsayACB scheduler logs (debug.log) will show the following error "**[error] Account locked. Please contact your backup service provider. Retry in 6 hours …**"

debug.log

[2011/01/28 20:04:32][info] Loading configuration file …
[2011/01/28 20:04:32][info] Loading configuration file … Completed
[2011/01/28 20:04:32][info] Loading profile from server …
[2011/01/28 20:04:33][error] Account locked. Please contact your backup service provider. Retry in 6 hours …

14.6   Account Lockout Auditing

Information relating to incorrect logins attempts will be recorded in the AhsayOBS system log, as well as the AhsayOBS logs located in %OBS_HOME%\logs.

The following is an example of what is recorded in the system log, when there is an incorrect user login attempt via the AhsayOBS web console

Login attempts via AhsayOBS web console are identified as "[www][Logon] '%user_account%'"

948	11:00:00 AM	t1	--	[info][www][Logon] 't1' logon failed. IP='10.10.0.1'. Login Failure Count=1 . Reason= [UserCacheManager.PasswordIncorrectExpt] Incorrect password for user 't1'.
949	11:00:02 AM	t1	--	[info][www][Logon] 't1' logon failed. IP='10.10.0.1'. Login Failure Count=2 . Reason= [UserCacheManager.PasswordIncorrectExpt] Incorrect password for user 't1'.
950	11:00:05 AM	t1	--	[info][www][Logon] 't1' logon failed. IP='10.10.0.1'. Login Failure Count=3 . Reason= [UserCacheManager.PasswordIncorrectExpt] Incorrect password for user 't1'.
951	11:00:07 AM	t1	--	[info][www][Logon] 't1' logon failed. IP='10.10.0.1'. Reason=[UserCacheManager.UserLockedExpt] User 't1' is locked.

The following is an example of what is recorded in the system log, when there is an incorrect user login attempts from an AhsayOBM/AhsayACB client.

Login attempts via AhsayOBM/AhsayACB are identified as "[system] [getProfileRqt] '%user_account%'"

149	04:55:30 AM	t1	--	[info][system][GetUserProfileRqt][UserCacheManager.PasswordIncorrectExpt] Incorrect password for user 't1'. IP = '10.10.0.1'. Login Failure Count = 1
150	04:55:32 AM	t1	--	[info][system][GetUserProfileRqt][UserCacheManager.PasswordIncorrectExpt] Incorrect password for user 't1'. IP = '10.10.0.1'. Login Failure Count = 2
151	04:55:34 AM	t1	--	[info][system][GetUserProfileRqt][UserCacheManager.PasswordIncorrectExpt] Incorrect password for user 't1'. IP = '10.10.0.1'. Login Failure Count = 3
152	04:55:36 AM	t1	--	[info][system][GetUserProfileRqt][UserCacheManager.UserLockedExpt] User 't1' is locked.

15 Multiple Thread Support

Multiple thread support is available for the following AhsayOBM/AhsayACB functions; backup, restore, local copy, seed load, and file decrypt for all backup sets. In order to utilize this feature AhsayOBM and AhsayACB need to be on version v6.3.0.0 or above. In addition, the web restore applet also supports multiple thread file restores for AhsayOBS v6.3.0.0 or above.

Multiple thread support is enabled by default and cannot be disabled.The maximum number of threads supported is automatically determined by the number of logical CPU's on a client machine:

Maximum number of threads = Number of Logical CPU x 2 (up to a maximum of 8 threads)

Multiple threading will result in increased memory and CPU usage on the AhsayOBM/AhsayACB client machine, the level of resource usage will be proportion to the number of active threads. In order to fully leverage this feature, it is recommended a client machine should be installed with multiple core processors and sufficient free memory.

WARNING:

Multiple thread backup and restore operations can result in increase loading on your AhsayOBS server and could lead to AhsayOBS performance problems. It is strongly recommended a review of AhsayOBS hardware and configuration requirements is undertaken, to determine server suitability before mass deployment of v6 clients.

16 Create a "Read Only" or Non Admin System User

To create a read only admin user or non admin user account, go to the [Manage System] -> [Manage System User] page and click on "Add System User" link.

Enter the login name for the new system user account, the password must be at least six characters long, and the role must be "Non Admin".

To confirm the creation of the new user press the "Add" button. The account will be created and AhsayOBS will list the new and exisiting non admin accounts.

17 AutoUpdate

This chapter describes how you can use the AutoUpdate feature to automatically update AhsayOBM and AhsayACB on all running instances:

17.1 How it works

The AutoUpdate operation relies on AutoUpdate Agent (AUA) to function properly. It is a service bundled with AhsayOBM/AhsayACB. No new updates will be delivered to a machine running AhsayOBM or AhsayACB if AutoUpdate Agent service is stopped.

During each Auto Update cycle, AutoUpdate works in the following sequences:

1. The AutoUpdate Agent running on the client machine will download the index file (%OBSR_HOME%\webapps\obs\liveUpdate\index.xml) which contains the information of the latest client software available from AhsayOBS.

2. If the AutoUpdate Agent finds that AhsayOBS contains a patch for AhsayOBM or AhsayACB which is newer than the current version, it will download and install the patch from AhsayOBS automatically (%OBSR_HOME%\webapps\obs\liveUpdate\obm????.zip).

3. After the AhsayOBM or AhsayACB client is updated. The scheduled backup job will run using latest version of AhsayOBM/AhsayACB.

Note:

In order for AutoUpdate to work, the "index.xml" file must be renamed from the file "index.xml.disable" inside the directory "%OBSR_HOME%\webapps\obs\liveUpdate".

17.2   Using AutoUpdate

When you install an updated version of AhsayOBS on your backup server, a new version of the AutoUpdate module for AhsayOBM and AhsayACB are already bundled with the updated version of AhsayOBS. This means that a new version of AhsayOBM or AhsayACB will be delivered to all your client machines through the AutoUpdate Agent when you install an updated version of AhsayOBS on your server.

17.3   Customizing AutoUpdate

If you want to customize the AutoUpdate patch file that will be delivered to your existing client installations (i.e. sending your own patch file to your client), please refer to the Ahsay Customization Portal User Guide from the Ahsay Customization Portal for more information.

17.4   Forcing an extra AutoUpdate

If you want to customize the AutoUpdate patch file that will be delivered to your existing client installations (i.e. sending your own patch file to your client), please refer to the Ahsay Backup Software Upgrade Guide.

17.5   AutoUpdate Limitations

AutoUpdate is officially supported for AhsayOBM & AhsayACB v5.5.1.0 or above to v6.7.0.0.

AutoUpdate of AhsayOBM & AhsayACB to v6 is officially supported for O/S platforms specified in FAQ: Ahsay Software Compatibility List (SCL) for version 6.3 or above (2323)

AutoUpdate Agent does not support AhsayOBM/AhsayACB upgrade from v5 to v6 on the following O/S platforms:

   i.   FreeBSD
   ii.   Solaris
   iii. Mac OSX

AutoUpdate Agent may update details on bundled Java that is packaged with AhsayOBM/AhsayACB installation. Due to this reason, AutoUpdate Agent will not support upgrades on these platforms as propriety Java are in use.

17.6 AutoUpdate Changes

From AhsayOBS v6.5.0.1 onwards the configuration of AutoUpdate feature on AhsayOBS has been further enhanced, to allow AhsayOBM/AhsayACB client upgrades based on a specific client version or a range of versions. AutoUpgrades of AhsayOBM/AhsayACB clients can also be performed based on specific O/S versions (Windows only).

The 'force' attribute has been removed from 'index.xml' since the AutoUpdate Agent GUI has been disabled.

17.6.1 Attributes Changes

Attribute	Description
os	Only accepts the OS family name (Windows/Mac OS/NIX)
compatible-os	Accepts the list of supported OS name separated by ',' *(For Example "Windows XP, Windows 2003, Windows Vista, Windows Server 2008, Windows 7")*

The following is an example of an <AutoUpdate> entry in the "index.xml":

<AutoUpdate product="obm" version="6.5.0.0" compatible="5.5.x.x" host="">

<patch os="Windows" url="/obs/liveUpdate/obm6500-win.zip" compatible-os="Windows XP, Windows 2003, Windows Vista, Windows Server 2008, Windows 7" include-users="" exclude-users="" force="false"/>*

<patch os="Mac OS" url="/obs/liveUpdate/obm6500-mac.zip" compatible-os="Mac OS X" include-users="" exclude-users="" force="false"/>*

<patch os="NIX" url="/obs/liveUpdate/obm6500-nix.zip" compatible-os="Linux, Solaris, SunOS, FreeBSD" include-users="" exclude-users="" force="false"/>*

</AutoUpdate>

17.6.2 Multiple AhsayOBM/AhsayACB Versions Selection

A new value type has been introduced in the 'compatible' attribute in the <AutoUpdate> tag. So that AutoUpdate can target AhsayOBM/AhsayACb clients on specified version(s)

For example:
  i.   5.5.[5-8].x refers to versions 5.5.5.x, 5.5.7.x, and 5.5.8.x
  ii.   6.5.[0-4].x refers to versions 6.5.0.x, 6.5.1.x, 6.5.2.x, and 6.5.4.x

The product version range should be:

  i. Specified inside brackets, i.e. [5-8]

ii. Be a positive integer,i.e. [5-10], [0-9].
iii. Starting range should be smaller than the range end. i.e [8-5] is an invalid range.

The following are examples of <AutoUpdate> entries in the "index.xml":

i. Multiple versions

AhsayOBM/AhsayACB versions from 5.5.3.0 to 5.5.3.3
<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.3.x" host=""/>
<AutoUpdate product="acb" version="6.5.0.1" compatible="5.5.3.x" host=""/>

AhsayOBM/AhsayACB versions from 5.5.5.0 to 5.5.5.5 and AhsayOBM 5.5.7.0 to 5.5.7.5
<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.5.x, 5.5.7.x" host=""/>
<AutoUpdate product="acb" version="6.5.0.1" compatible="5.5.5.x, 5.5.7.x" host=""/>

AhsayOBM/AhsayACB versions from 6.3.0.0 to 6.3.1.0
<AutoUpdate product="obm" version="6.5.0.1" compatible="6.3.x.x" host=""/>
<AutoUpdate product="acb" version="6.5.0.1" compatible="6.3.x.x" host=""/>

ii. Version range

AhsayOBM/AhsayACB versions from 5.5.5.0 to 5.5.8.x
<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.[5-8].x" host=""/>
<AutoUpdate product="acb" version="6.5.0.1" compatible="5.5.[5-8].x" host=""/>

AhsayOBM/AhsayACB versions from 5.5.5.0 to 5.5.5.5
<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.[5].x" host=""/>
<AutoUpdate product="acb" version="6.5.0.1" compatible="5.5.[5].x" host=""/>

iii. Multiple version with version ranges

AhsayOBM/AhsayACB versions from 5.5.5.0 to 5.5.7.5 and 5.5.8.0 to 5.5.9.0
<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.[5-7].x, 5.5.[8-9].0, 6.3.x.x" host=""/>
<AutoUpdate product="acb" version="6.5.0.1" compatible="5.5.[5-7].x, 5.5.[8-9].0, 6.3.x.x" host=""/>

AhsayOBM/AhsayACB versions from 5.5.5.0 to 5.5.5.5 and 5.5.7.0 to 5.5.7.5
<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.[5].x, 5.5.7.x, 6.5.x.x" host=""/>
<AutoUpdate product="acb" version="6.5.0.1" compatible="5.5.[5].x, 5.5.7.x, 6.5.x.x" host=""/>

17.6.3 Multiple Host Selection

The AutoUpgrade can be configured to target AhsayOBM/AhsayACB clients which are connecting to certain host names using the 'host' attribute. The host attribute can accepted only valid hostnames or "", no wildcard values are allowed, i.e. host="*".

i. Single host configuration

<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.8.x" host="backup1.ahsay.com"/>

ii. Multiple hosts configuration

<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.8.x" host="backup1.ahsay.com, backup2,ahsay,com, backup3.ahsay.com"/>

For AhsayOBS servers configured with multiple resellers and each reseller has an individual domain name.

iii. All hosts

<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.8.x" host=""/>
or
<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.8.x"/>

Note:

The use wildcard values are not supported, for example:
<AutoUpdate product="obm" version="6.5.0.1" compatible="5.5.8.x" host=""/>*

17.6.4 Backup User Account Selection

The Auto Update of AhsayOBM/AhsayACB clients can be managed directly from the AhsayOBS web console. The AhsayOBS system administrator or system users will be able to select backup clients to upgrade via the [Manage System] -> [Manage User] -> [Auto Update] page. By default all backup user accounts are selected. This information is then saved to the %OBS_HOME%\conf\ autoUpdate.bdb file. The "autoUpdate,bdb" file will be automatically created when AhsayOBS is installed or when upgraded to v6.7.0.0 or above during AhsayOBS service startup.

Once selected for Auto Update the AhsayOBM/AhsayACB clients connecting to the backup account will be updated. The AhsayOBM/AhsayACB clients will be updated regardless of the status of the backup account, i.e. enabled, suspended, or locked.

The following example is from the [Manage System] -> [Manage User] -> [Auto Update] page for the "system" user. By default all backup user accounts are selected for Auto Update. In addition to displaying the list of backup users, when Auto Update is enabled on AhsayOBS. Both the latest available upgrade versions for AhsayACB and AhsayOBM are shown.

The "system" user can view and change the auto update status for all AhsayOBM/AhsayACB user accounts on the AhsayOBS server including those created by resellers. The reseller owned backup user accounts are identified with the 'Owner" name.

Manage System	Manage Log	**Manage User**	Manage Group Policy	Manage System User			Select Language
Add User	List User	Run Backup	**Auto Update**				Logout

Search by : ● Login Name ○ Alias

[A-B | C-D | E-F | G-H | I-J | K-L | M-N | O-P | Q-R | S-T | U-V | W-X | Y-Z | Others | Trial | Paid | Suspended | Locked | **All**]

Administrator

Ⓠ 6.7.0.0   Ⓞ 6.7.0.0

No.	☐	Login Name (Alias)	Owner	Registration Date	Trial Expiry Date
1	☑	Ⓠ acb1 ()	--	2011-11-11 (13 days ago)	Never Expire
2	☑	Ⓠ acbtest1 (abc123)	level2	2011-11-24 (Today)	Never Expire
3	☑	Ⓠ acbtest2 (abc123)	level2	2011-11-24 (Today)	Never Expire
4	☑	Ⓠ acbtest3 (abc123)	level2	2011-11-24 (Today)	Never Expire
5	☑	Ⓞ s1 ()	--	2011-11-01 (23 days ago)	Never Expire
6	☑	Ⓞ t1 ()	--	2011-10-31 (24 days ago)	Never Expire
7	☑	Ⓞ t2 ()	--	2011-10-31 (24 days ago)	Never Expire
8	☑	Ⓞ test1 (abc123)	level2	2011-11-24 (Today)	Never Expire
9	☑	Ⓞ test2 (abc123)	level2	2011-11-24 (Today)	Never Expire
10	☑	Ⓞ tr (abc123)	--	2011-11-24 (Today)	Never Expire

Update   Reset

Some definitions of the fields related are shown in the following table:

Key	Description
No.	Number count of the backup user.
Login Name (Alias)	The login name of the user with the alias bracketed behind.
Owner	Owner of this backup user.
Registration Date	The creation time of user.
Trial Expiry Date	The expiry date of trial user.

If the Auto Update feature is disabled on AhsayOBS the [Manage System] -> [Manage User] -> [Auto Update] page, will display the status "Auto Update is disabled". Both the latest available upgrade versions for AhsayACB and AhsayOBM will not be shown.

WARNING:

Please DO NOT modify the attributes "include-users" and "exclude-users" inside the <patch> tag in the file "index.xml" as the values inside the attributes will be replaced by the settings in this page.

17.7 Enable AutoUpdate on AhsayUBS

To rename the "index.xml" file from "index.xml.disable" on an AhsayUBS server. Please perform the following steps:

1. Stop the AhsayOBS service from the AhsayUBS web admin console under [Backup Server] > [Server Status] and press the [Stop] button.
2. After the [Backup Server] > [Server Status] > [Status] has changed to 'Stopped". Use a ssh client to login to the AhsayUBS server using 'root' account.
3. Mount "/ubs/mnt/esosfw" as read write using the "mount -uw /ubs/mnt/esfmfw" command.
4. cd /ubs/mnt/esfmfw/obsr/system/obsr/webapps/obs/liveUpdate
5. Rename the "index.xml.disable" to "index.xml" using the following command "mv index.xml.disable index.xml"
6. Reboot the AhsayUBS server from the AhsayUBS web admin console [System] > [Reboot] > [Now] and press [Yes] to confirm.
7. After AhsayUBS server has rebooted, start the AhsayOBS service from the AhsayUBS web admin console under [Backup Server] > [Server Status] and press the [Start] button. The [Backup Server] > [Server Status] > [Status] will change to 'Running".

Note:

1. After the AhsayUBS server is rebooted the "/ubs/mnt/esosfw" will be automatically mounted as read only.

2. Since AhsayOBS version 6.13, the following files will not be included in the AhsayOBS bundled with the AhsayUBS installer:

   • jvmupdate-160u23-win.zip
   • jvmupdate-160u23-linux.zip

   These are the patch files for the Java virtual machines. If you want to update your clients from 5.5.8.0 (or below) to 6.13 or later versions, please refer to the steps in <u>ISSUE: Cannot auto upgrade to the latest version (for client version 5.5.8.x connected to AhsayOBS on AhsayUBS version 2.13.0.0 or above) (3076)</u>.

18 Backup / Restore files using off-line media

Backing up large amount of files (e.g. 300GB) online through the Internet is a very lengthy task. It is sometimes necessary to ship the first full backup through off-line media (e.g. removable USB hard disk) to the backup server. Once the first full backup is loaded onto the backup server through off-line media, all subsequent backups will be able to run and complete successfully in a timely manner because it is only necessary to upload new/updated files to the backup server.

Restoring large amount of files (e.g. 300GB) online through the Internet is also a very lengthy process. It is also important to be able to allow users to restore their backup file through offline media to reduce the time required to restore large amount of files.

This chapter describes the steps required to import/export backup files to/from AhsayOBS.

18.1 Seed loading backup files (Import)

A backup user can use the [Seed Load Utility] to transport its first full backup to an offsite backup server without having to upload a large volume of data through the Internet (Please refer to the AhsayOBM User's Guide for more information). When the seed load files are transported to the backup server (e.g. using removable hard disk), please follow the instructions below to install them into the required user account:

1. Locate the home directory of the backup user.

    A backup user's home directory is a directory named the login name of the backup user under one of the AhsayOBS's [User Homes] directories. [User Homes] is a system-wide setting which can be accessed under the [Manage System] menu after logging onto the web system management console.

    For example:

    The default [Users Homes] directory is "C:\Program Files\AhsayOBS and AhsayRPS\user". If the login name of the backup account is "john", the home directory of user "john" should be "C:\Program Files\AhsayOBS and AhsayRPS\user\john".

2. Copy all seed load files to the home directory.

    Find the "files" directory from the seed load files, and copy the "files" directory to the backup user's home directory.

    In this example, you should copy the "files" directory to "C:\Program Files\AhsayOBS and AhsayRPS\user\john"

If you are running AhsayOBS on Linux under a non-root user (e.g. obs), please make sure that the "files" directory and all its contents are owned and writable by the user running AhsayOBS (e.g. obs).

3.   Check if all files are installed correctly.

Logon to the web interface of AhsayOBS with the backup user account ("john" in this example) and click the [File Explorer] link available at the top of the menu. Check if you can see all seed load files correctly installed.

4.   Total number of files and total file size imported into the data area through seed loading is not visible in the profile of this backup user (i.e. The [User Profile] page still reports no files in the data area). Administrator should run the "File Validation Option" ([AhsayOBS web admin console] -> [Manage User] -> [User Profile] -> [File Validation Option]) for the corresponding user with the option "Verify Checksum" enabled to ensure that all backup files are seed loaded to AhsayOBS correctly.

If you need to perform another import (seed loading) when there are backup files on the backup server already, please remove all existing backup files from the backup server by removing the backup set ID directory (i.e. a numerically named directory under the "files" directory under a user directory) before copying all new seed loading files into the system. If you have more than one backup set ID directory under the "files" directory, please take a look at [User Home Directory]\db\Profile.xml to find out the correct Backup Set ID for the required backup set.

18.2 Saving backup files to off-line media (Export)

If you want to save a copy of all backup files under a backup user account to an offline media, please do the following:

1.   Locate the home directory of the backup user.

2.   Copy the complete home directory of this backup user to an offline media.

3.   Once the offline media is shipped to the user, the user can then use the [Decrypt File Wizard] available in AhsayOBM to decrypt and restore the backup files available in the offline backup back to its original format.

19 High Availability & Load-Balancing Configuration

For further information, please refer to the AhsayOBS High Availability Option Setup Guide and Ahsay Redirector Setup Guide available in our [document section](#).

20 Secure connection with AhsayOBS

This chapter describes how you can use the Management Console to configure various secure connection settings of AhsayOBS.

20.1 Installing a trusted SSL certificate

Default installation of AhsayOBS enables SSL (Secure Socket Layer) support using a dummy certificate. For your own security, you are advised to replace the pre-installed dummy SSL certificate with a secure SSL certificate from a trusted CA (Certificate Authority). To replace the non-secure dummy SSL certificate with a secure SSL certificate, please do the following:

1. Identify the location of the keystore file.

   You need to store your SSL certificate in a keystore file. The default location of the keystore file is %OBSR_HOME%\conf\keystore.

   Make a backup of this dummy keystore file, you may use this file in the future.

2. Delete dummy certificate from keystore.

   You can delete the dummy SSL certificate from the keystore by running:

   ```
   %OBSR_HOME%\java\bin\keytool –delete –alias tomcat –keystore
   %OBSR_HOME%\conf\keystore.
   ```

   You will be prompted for the keystore password. The default password is "changeit".

Platform	Example
Windows	`C:\Program Files\AhsayOBS and AhsayRPS\conf>` `"C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool –delete –alias tomcat –keystore keystore`
Linux	`[root]# keytool –delete –alias tomcat –keystore /Applications/AhsayOBS/conf/keystore`

3. Generate RSA key pair.

   A SSL certificate contains a RSA key pair. You can generate a RSA key pair by running:

   ```
   %OBSR_HOME%\java\bin\keytool –genkey –alias tomcat –keyalg
   RSA –keysize 2048 -sigalg sha256withRSA –keystore
   %OBSR_HOME%\conf\keystore
   ```

Also, the key password for the alias "tomcat" must be the same as the keystore password. Please simply press the [Enter] key when you are prompted for the key password for tomcat (i.e. Press [Enter] when you see the "key password for <tomcat>" prompt).

Note: The keysize value '2048' and generate a SHA 256 CSR are now requested by most of the CA. Please double check with your CA on these values.

Platform	Example
Windows	`C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool -genkey -alias tomcat -keyalg RSA -keysize 2048 -sigalg sha256withRSA -keystore keystore`
Linux	`[root]# keytool -genkey -alias tomcat -keyalg RSA -keysize 2048 -sigalg sha256withRSA -keystore /usr/local/OBS/conf/keystore`

4. Create a local Certificate Signing Request (CSR).

    You can create a CSR for your SSL certificate by running:

    ```
    %OBSR_HOME%\java\bin\keytool -certreq -keyalg RSA -alias
    tomcat -file ssl.csr -keystore %OBSR_HOME%\conf\keystore
    ```

Platform	Example
Windows	`C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool -certreq -keyalg RSA -alias tomcat -keystore keystore`
Linux	`[root]# $OBSR_HOME/java/bin/keytool -certreq -keyalg RSA -alias tomcat -keystore $OBSR_HOME/conf/keystore`

5. Submit the CSR file to a trusted CA of your choice. This process may take several hours to several days.

6. Download the SSL certificate from your CA, if your SSL certificate generated by your CA does not requires intermediate certificate, go to step 7.

    Please download intermediate certificate(s) if the SSL certificate issued by your CA is required and import the intermediate certificate(s) into your keystore before you import your SSL certificate. Since the instruction may be different for different CA, please check with your CA for detailed instructions.

    Sample syntax:

```
%OBSR_HOME%\java\bin\keytool –import –alias intermediate –
trustcacerts –file CA_bundle_intermediate.crt –keystore
%OBSR_HOME%\conf\keystore
```

Note:

- The alias 'intermediate' is used for storing the intermediate certificate. If your CA offers more than 1 intermediate certificates, you can the command again by entering another alias such as 'intermediate2'.
- The name of the bundled intermediate certificates are different between CA, you need to check with your CA and modifiy the name accordingly.

Platform	Example
Windows	`C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool –import –alias intermediate –trustcacerts –file CA_bundle_intermediate.crt –keystore %OBSR_HOME%\conf\keystore`
Linux	`[root]# $OBSR_HOME/java/bin/keytool –list –alias intermediate –trustcacerts –file CA_bundle_intermediate.crt –keystore $OBSR_HOME/conf/keystore`

7. Import signed SSL certificate to the keystore from which the CSR was generated by:

```
%OBSR_HOME%\java\bin\keytool –import –alias tomcat –
trustcacerts –file ssl.crt –keystore
%OBSR_HOME%\conf\keystore
```

Platform	Example
Windows	`C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool –import –alias tomcat –trustcacerts –file ssl.crt –keystore %OBSR_HOME%\conf\keystore`
Linux	`[root]# $OBSR_HOME/java/bin/keytool –list –alias tomcat –keystore $OBSR_HOME/conf/keystore`

If you are getting the "**keytool error: java.lang.Exception: Failed to establish chain from reply**" message when importing the SSL certificate file from CA, please try double-clicking the ssl.crt file on Windows to view all **intermediate certificates** being used to sign your certificate and import all intermediate certificates (downloadable from your CA) into your keystore file before importing your SSL certificate. You can check with your CA for detailed instructions.

8. Check if you have installed the SSL certificate correctly by:

    %OBSR_HOME%\java\bin\keytool –list –alias tomcat –keystore
    %OBSR_HOME%\conf\keystore

Platform	Example

Windows	`C:\Program Files\AhsayOBS and AhsayRPS\conf>`
	`"C:\Program Files\AhsayOBS and`
	`AhsayRPS\java\bin"\keytool –list –alias tomcat –`
	`keystore keystore`

Linux	`[root]# $OBSR_HOME/java/bin/keytool –list –alias` `tomcat –keystore $OBSR_HOME/conf/keystore`

Sample Output:

Tomcat,   2003/6/13,   keyEntry,   Certificate   fingerprint   (MD5):
xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx

Please make sure that you are getting the type "keyEntry" instead of
"trustedCertEntry" from the output above. If you are getting
"trustedCertEntry", the most likely cause of this is that you are NOT
importing the SSL certificate back into the same keystore from which
the CSR was generated. The only solution to this is to find this keystore
file and import the certificate(s) to the keystore file again. If you can't
find this file, please repeat the instructions in this section from step 1
and try again.

* When asked for your "first and last name" during the key generation,
please specify the domain that you will be using this certificate for.
Please refer to the following example:

Full Example
C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool –genkey –alias tomcat –keysize 2048 –keyalg RSA -sigalg sha256withRSA –keystore keystore Enter keystore password: changeit What is your first and last name?   [unknown]: www.secure-company.com What is the name of your organizational unit?   [unknown]: NOT SECURE What is the name of your organization?   [unknown]: NOT SECURE What is the name of your City or Locality?   [unknown]: NOT SECURE What is the name of your State or Province?   [unknown]: NOT SECURE What is the two-letter country code for this unit?   [unknown]: NS

```
Is <CN=www.secure-company.com, OU=NOT SECURE, O=NOT
SECURE, L=NOT SECURE, ST=NOT SECURE, C=NS> correct?
  [no]: yes

Enter key password for <tomcat>
        (RETURN if same as keystore password):

C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program
Files\AhsayOBS and AhsayRPS\java\bin\"keytool –certreq –keyalg
RSA – alias tomcat –file certreq.csr –keystore keystore
Enter keystore password: changeit
```

When your CA has signed the SSL certificate:

```
C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program
Files\AhsayOBS and AhsayRPS\java\bin\"keytool –import –alias
tomcat –keystore keystore –trustcacerts –file ssl.crt
Enter keystore password: changeit
Certificate reply was installed in keystore

C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program
Files\AhsayOBS and AhsayRPS\java\bin\"keytool –list –alias tomcat –
keystore keystore

Tomcat 2003/06/13, keyEntry, Certificate fingerprint (MD5):
xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx
```

When your CA has signed the SSL certificate with intermediate certificate:

```
C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program
Files\AhsayOBS and AhsayRPS\java\bin\"keytool –import –alias
intermediate –keystore keystore –trustcacerts –file
CA_bundle_intermediate.crt
Enter keystore password: changeit
Re-enter new password: changeit
Certificate was added to keystore

C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program
Files\AhsayOBS and AhsayRPS\java\bin\"keytool –import –alias
tomcat –keystore keystore –trustcacerts –file ssl.crt
Enter keystore password: changeit
Certificate reply was installed in keystore

C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program
Files\AhsayOBS and AhsayRPS\java\bin\"keytool –list –alias tomcat –
keystore keystore
```

> Tomcat 2003/06/13, keyEntry, Certificate fingerprint (MD5):
> xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx

Note: General SSL cert issued by CA is sufficient for the need of backup purpose. Extended Validation (EV) cert can also be used, it is designed for high-security usage, mainly used in browser. The cost of this cert is more expensive. Unified Communications Certificates (UCC) are also supported, please refer to http://support.godaddy.com/help/3908 for more information.

20.2   Renew a trusted SSL certificate

When your SSL certificate is due to expire, you can renew your SSL cert via your CA's website. Your CA may ask you to use existing CSR that you submitted previously or submit a new CSR.

- If you decided to use a new CSR, most likely the information on the old CSR is not up-to-date. Most CA will not consider this as a renew process and you need to start from the beginning of a certificate process described in previous section.
- If you purchase a renew SSL certificate with the existing CSR, wait for your CA to sign the renew SSL certificate.

Note: The renewal process may be different for different CA. You need to follow your CA's instruction on the renewal process.

The import step of a renew SSL certificate is similar to the installation of a SSL certificate.

Import signed renew SSL certificate to the keystore from which the CSR was generated by:

```
%OBSR_HOME%\java\bin\keytool -import -alias tomcat -
trustcacerts -file ssl.crt -keystore
%OBSR_HOME%\conf\keystore
```

Platform	Example
Windows	`C:\Program Files\AhsayOBS and AhsayRPS\conf>` `"C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool -import -alias tomcat -trustcacerts -file ssl.crt -keystore %OBSR_HOME%\conf\keystore`
Linux	`[root]# $OBSR_HOME/java/bin/keytool -import -alias tomcat -trustcacerts -file ssl.crt -keystore %OBSR_HOME%\conf\keystore`

When the CA has signed the renew SSL certificate:

Full Example
C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool –import –alias tomcat –keystore keystore –trustcacerts –file ssl.crt Enter keystore password: changeit Certificate reply was installed in keystore C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool –list –alias tomcat – keystore keystore Tomcat 2003/06/13, keyEntry, Certificate fingerprint (MD5): xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx

20.3 Import pfx certificate into Java keystore

If you already have a pfx certificate and you want to import it into the Java keystore (JKS). Please do the following.

Assumption:
- You have a pfx certificate that already combine the certificate chain with your CA. If you are not too sure, you can check with your CA or try the reference in our appendix section.
- Make sure you are using the Java keystore file that was bundled with AhsayOBS version 6.19.0.0 or later.

1. Put the pfx certificate file to the directory where the keystore locates. Eg: %OBS_HOME%\conf .

2. To import the .pfx file with the keytool command in the %OBS_HOME%\java\bin .

```
%OBSR_HOME%\java\bin\keytool -importkeystore -deststorepass
<java_keystore_password> -destkeypass <java_key_password> -
destkeystore <java_keystore_path/filename> -destalias tomcat
-srckeystore <pfx_keystore_filename> -srcstoretype PKCS12 -
srcstorepass <pfx_keystore_password> -srckeypass
<pfx_key_password> -alias <pfx_alias>
```

Platform	Example
Windows	C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and

	*AhsayRPS\java\bin\"*keytool -importkeystore -deststorepass changeit -destkeypass changeit -destkeystore keystore -destalias tomcat -srckeystore my_keystore.pfx -srcstoretype PKCS12 -srcstorepass mypfxpassword -srckeypass mypfxpassword -alias my_alias
Linux	*[root]# $OBSR_HOME/java/bin/*keytool -importkeystore -deststorepass changeit -destkeypass changeit -destkeystore keystore -destalias tomcat -srckeystore my_keystore.pfx -srcstoretype PKCS12 -srcstorepass mypfxpassword -srckeypass mypfxpassword -alias my_alias

Note:

- The pfx file name is my_keystore.pfx
- The password of pfx keystore is mypfxpassword
- The –destalias must be tomcat, other alias name is not supported.
- The "-alias my_alias" is the alias of the key used in the pfx file. The name is set by your CA or the conversion program. To check on the alias name, you can try the following command. The alias name is highlighted in the example below.

```
keytool –v –list –storetype pkcs12 –keystore
<pfx_keystore_path>
```

Example

C:\Program Files\AhsayOBS and AhsayRPS\conf> "C:\Program Files\AhsayOBS and AhsayRPS\java\bin\"keytool -v -list -storetype pkcs12 -keystore my_keystore.pfx
Enter keystore password:

Keystore type: PKCS12
Keystore provider: SunJSSE

Your keystore contains 1 entry

Alias name: **c6161639994182ddc1a20e54c449d08_908c0c5-0b44-47c1-b991-49652351d32d**
Creation date: Jul 19, 2014
Entry type: PrivateKeyEntry
Certificate chain length: 1
Certificate[1]:
Owner: CN=XXXXXX.XXXXXX.com, OU=XXXXXXX SSL, OU=Hosted by XXXXX XXXXX, OU=XXXXX XXXXX XXXXXX
Issuer: CN=XXXXXX SSL CA, O=XXXXXXX CA Limited, L=XXXXXX, ST=XXXXXX XXXX, C=XX
Serial number: 4f1330fc973as4eb2dde57e387eb83dce
Valid from: Thu Jul 19 08:00:00 CST 2014 until: Mon Jul 20 07:59:59 CST 2016
Certificate fingerprints:
    MD5: 94:6C:BB:F6:C4:7A:18:3B:18:FF:92:F3:F1:99:AA:33
    SHA1: EC:00:8D:C6:93:CC:AB:ED:78:96:14:19:D4:86:88:EF:6A:8B:3D:9D
    Signature algorithm name: SHA1withRSA
    Version: 3
:
:

> :

- Since every CA may distribute the pfx with slightly different format. If the above instruction does not work with you case. You can check with your CA or refer to our appendix section for further reference
- For more information, please refer to the keytool document page at http://docs.oracle.com/javase/6/docs/technotes/tools/solaris/keytool.html

20.4 Enforcing SSL to the web interface

If you want all users to connect to the web interface of AhsayOBS using SSL to enforce secure connection, please do the followings:

1. Open %OBSR_HOME%\webapps\obs\WEB-INF\web.xml

2. Locate the [Enforce SSL] section at the end of "web.xml"

Web.xml

```
...
  <!--
==============================================
======================================= -->
 <!-- ================================ Enforce  SSL
===================================== -->
  <!-- == Please uncomment the following section to enforce SSL for the
web interface == -->
  <!--
==============================================
====================================== -->
<!--
  <security-constraint>
   <web-resource-collection>
    <web-resource-name>Automatic  SLL  Forwarding</web-resource-
name>
    <url-pattern>/jsp/user/*</url-pattern>
    <url-pattern>/jsp/system/*</url-pattern>
   </web-resource-collection>
   <user-data-constraint>
    <transport-guarantee>CONFIDENTIAL</transport-guarantee>
   </user-data-constraint>
  </security-constraint>
-->
...
```

---

3. Remove the XML comment tags ("<!--" and "-->", shown in red and bold above) from "web.xml"

4. Restart AhsayOBS.

Please note that this only enforces SSL when users log onto the web interface of AhsayOBS. It does not enforce backup traffic from AhsayOBM to be SSL.

20.5   Install code signing cert with the restorer applet

Default installation of AhsayOBS includes a dummy code sign cert for the Java applet for file restoration. To replace the code sign cert for this applet, please do the following:

Assumptions:
   * A JavaSoft Developer Certificate will be purchased.
   * Keystore password is "changeit", Certificate Signing Request (CSR) file will be named "codesign.csr".

To sign the restorer applet, we need to first generate a CSR for the purchase of the JavaSoft Developer Certificate.

Please refer to the following instructions:

1. Open command prompt, browses to the AhsayOBS configuration directory:

    ```
    cd %OBSR_HOME%\conf
    ```

Platform	Example
Windows	cd "C:\Program Files\AhsayOBS and AhsayRPS\conf"
Linux	[root]# cd /usr/local/obsr/conf

2. Make a copy of the keystore file:

Platform	Example
Windows	copy keystore keystore_cs
Linux	[root]# cp keystore keystore_cs

3. Browses to the Java bin directory:

Platform	Example

Platform	
Windows	*cd "C:\Program Files\AhsayOBS and* *AhsayRPS\java\bin"*
Linux	*[root]# cd /usr/local/obsr/conf/java/bin* *or* *your native Java bin folder path*

4.   Enter the following command:

Platform	Example
Windows	*keytool –genkey –alias Alias_Name –keysize 2048 –* *keyalg RSA -keystore "..\..\conf\keystore_cs"*
Linux	*[root]# keytool –genkey –alias Alias_Name –keysize* *2048 –keyalg RSA -keystore "../../conf/keystore_cs"*

Note: The **Alias_Name** is the cert store for your code sign cert, it will be used when you import the code sign cert from your CA.

Full Example
keytool -genkey -alias Alias_Name -keysize 2048 -keyalg RSA –keystore "../../conf/keystore_cs" Enter keystore password: changeit What is your first and last name? [Unknown]: backup.server.com What is the name of your organizational unit? [Unknown]: Unit Name What is the name of your organization? [Unknown]: Company Name What is the name of your City or Locality? [Unknown]: City What is the name of your State or Province? [Unknown]: State What is the two-letter country code for this unit? [Unknown]: XX Is CN=backup.server.com, OU=Product Name, O=Company Name, L=City, ST=State, C=XX? [no]: yes Enter key password for (RETURN if same as keystore password):

5.   Enter the following command afterward to generate the CSR file:

Platform	Example
Windows	*keytool –certreq –keyalg RSA –alias Alias_Name –* *file "C:\Program Files\AhsayOBS and* *AhsayRPS\conf\codesign.csr" -keystore*

	`"..\..\conf\keystore_cs"`
Linux	`[root]# keytool -certreq -keyalg RSA -alias Alias_Name -file "/usr/local/obsr/conf/codesign.csr" -keystore "../../conf/keystore_cs"`

6. A CSR file should be generated, similar to the example as follow:

example:

```
-----BEGIN NEW CERTIFICATE REQUEST-----
MIIBzDCCATUCAQAwgYsxCzAJBgNVBAYTAkdCMQ8wDQYDVQQIEwZMb25kb24xDzANBgNVBAcTBkxv
bmRvbjEjMCEGA1UEChMaQ2VydWxlYW4gU29sdXRpb25zIExpbWl0ZWQxEjAQBgNVBAsTCURhdGFW
YXVsdDEhMB8GA1UEAxMYZGF0YXZhdWx0Lm5lcnVsZWFuLmNvLnVrMIGfMA0GCSqGSIb3DQEBAQUA
A4GNADCBiQKBgQCdc7ehHP0RwSuxVgGlwmGszBjpcX3Gs4mAQUqP3SV2qj5V9BIExQdj+BEdp2Lr
XW618JTy25zHk/eil5RYfxJ2vFz+Ur/nkofa+H19XkugwMcvzNcnbzuyFMNXCSVwQ4qlwKw1wUIw
TqZKJO5q7TqDmThH9PjbpAGSRv8k3nHltQIDAQABoAAwDQYJKoZIhvcNAQEEBQADgYEAM6Max4hk
TTfyUwjVWtdECMiRejB1bFbx0cUSWSOXUXzHwTDBemrheq4asKh6DdfGKaK3jh21yhgNrvVtrtNX
zaskzKgHhay/PHXDgEx1gc0b3omKW5nOy4Lg3SBxf8ViWYQws7ZHhZENLbVg4pHj5dW0eLqXG1jb
//FpJA5ZQRI=
-----END NEW CERTIFICATE REQUEST-----
```

7. You can now purchase the JavaSoft Developer Certificate with the CSR generated.

With the purchased JavaSoft Developer Certificate (e.g. codesign.crt), we can import it with the following instructions:

8. Open command prompt, browses to the Java bin directory:

Platform	Example
Windows	`cd C:\Program Files\AhsayOBS and AhsayRPS\java\bin`
Linux	`[root]# cd /usr/local/obsr/java/bin` `or` `your native Java bin folder path`

9. Enter the following command to import the certificate:

Platform	Example
Windows	`keytool -import -trustcacerts -alias Alias_Name -file "C:\Program Files\AhsayOBS and AhsayRPS\conf\codesign.crt" -keystore "..\..\conf\keystore_cs"`

Linux	`[root]# keytool -import -trustcacerts -alias Alias_Name -file "/usr/local/obsr/conf/codesign.crt" -keystore "../../conf/keystore_cs"`

Note: The Alias_Name should be the same name when you generate the CSR in step 4.

10. Prepare to sign the restorer applet (obrA.jar) by following the instructions below:

   * Copy the obrA.jar file to a temporary directory,
      for example C:\temp_cert (Windows) or /temp_cert (Linux)
   * Rename the obrA.jar file to obrA.zip
   * Extract obrA.zip and remove all files within the META-INF directory
   * Rename the obrA.zip file back to obrA.jar afterward

   Note: By default, the obrA.jar file is located in

   Windows
   C:\Program Files\AhsayOBS and
   AhsayRPS\webapps\obs\jsp\applet\obr\obrA.jar

   Linux
   /usr/local/obsr/webapps/obs/jsp/applet/obr/obrA.jar

11. Download and install Java JDK on the AhsayOBS server. You can download the Java Development Kit at:

   http://java.sun.com/javase/downloads/index.jsp

   Note: The Java bundled with the AhsayOBS application is Java JRE.

12. Open command prompt, browse to Java JDK bin directory:

Platform	Example
Windows	`cd "C:\Program Files\Java\jdk1.6.0_17\bin"`
Linux	`[root]# cd /usr/local/jdk1.6.0_17/bin`

13. Sign the restorer applet (obrA.jar) with the following command:

${Java-JDK-Location}\jarsigner -keystore
"..\..\conf\keystore_cs" ..\..\webapps\obs\jsp\applet\obr\obrA.jar
Alias_Name
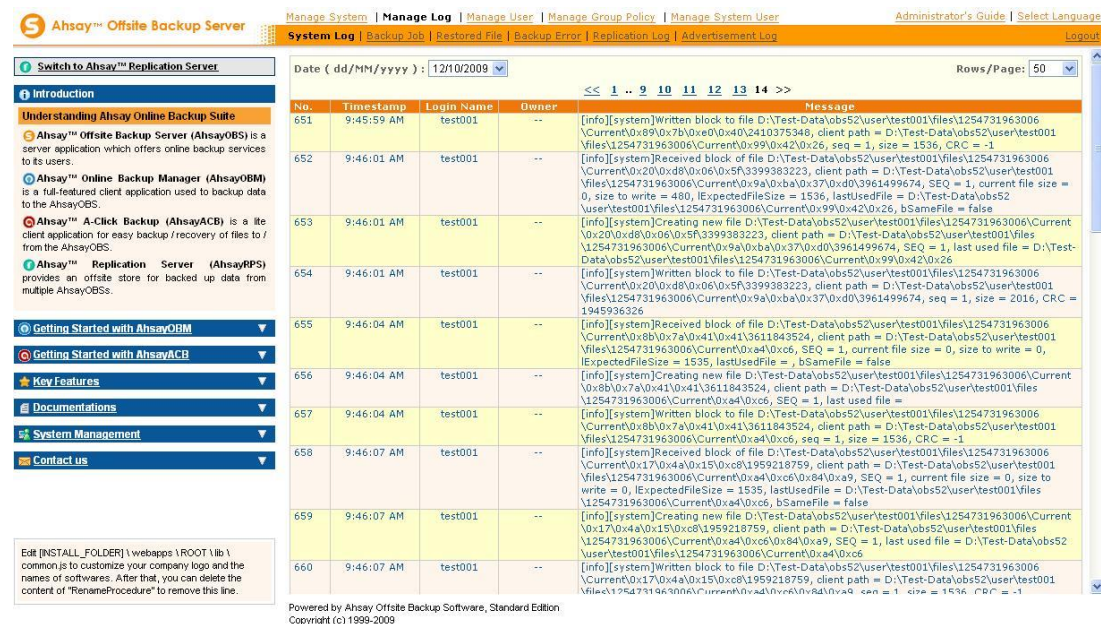
Platform	Example
Windows	jarsigner -keystore "..\..\conf\keystore_cs" ..\..\webapps\obs\jsp\applet\obr\obrA.jar Alias_Name
Linux	[root]# jarsigner – keystore ../../conf/keystore_cs ../../webapps/obs/jsp/applet/obr/obrA.jar Alias_Name

21 Monitoring System Activities

This chapter describes how you can use the [Manage Log] -> [System Log] page (shown below) to review system and backup activities of AhsayOBS.

21.1 Reviewing System Log

When you click the [Manage Log] -> [System Log] link available at the top menu, the [System Log] panel will appear. It lists all system messages / warnings / errors logged on any particular date by selecting the required date from the drop down list.
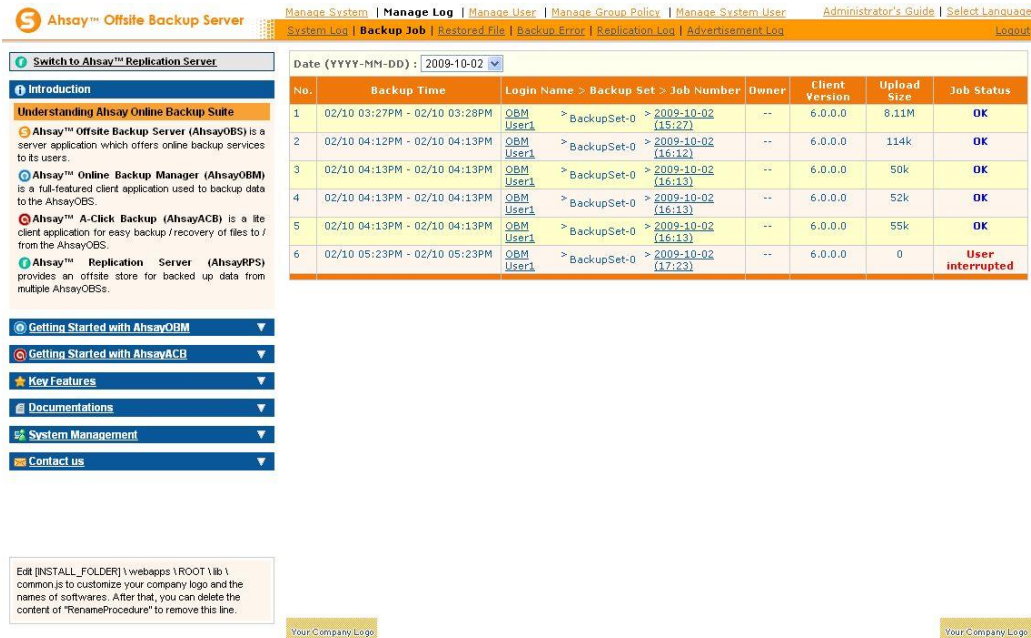
Key	Description
Date	The date when all messages were logged.
Rows/Page	The number of rows to display per page.
Timestamp	The time when the message was logged.
Login Name	The login name of the related user.
Owner	The owner of this user.
Message	The system log message.

21.2   Reviewing Backup Log

When you click the [Manage Log] -> [Backup Log] link available at the top menu, the [Backup Log] panel will appear. It lists all backup jobs run on a particular date. You can review the backup jobs run on any particular date by selecting the required date from the drop down list.

Key	Description
Date	The date when all backup jobs listed below were run.
Backup Time	Start and end time of this backup job.
Login Name > Backup Set > Job Number	Backup Account that ran this backup job.
Owner	Owner of this backup user.
Client Version	The AhsayOBM/AhsayACB version number that this backup user is using.
Upload Size	Size of backup data uploaded.
Status	Overall status of the backup job.

21.3   Reviewing Restored File Log

When you click the [Manage Log] -> [Restored File] link available at the top menu, the [Restore Log] panel will appear. It lists all online file restoration activities logged within a date. You can review online file restoration activities recorded on any particular date by selecting the required date from the drop down list.

Key	Description
Date	The date when all online file restoration were recorded.
Restore Time	Start and end time of file restoration activities.
Login Name	Backup account restoring files from the server.
Owner	The owner of this backup user.
Size	Total backup data restored from the server.
IP	IP address to where backup data were restored.

21.4   Reviewing Backup Error log

When you click the [Manage Log] -> [Backup Error] link available at the top menu, the [Backup Error] panel will appear. It lists all backup errors or warning logged within a date. You can review backup errors or warnings logged on any particular date by selecting the required date from the dropdown list.

Key	Description
Date	The date when all messages were logged.
Timestamp	The time when this message was logged.
Login Name	Backup account raising this error or warning.
Owner	The owner of this backup user.
Errors/Warnings	Details of the error or warning recorded.

21.5 Reviewing Replication Log

When you click [Manage Log] -> [Replication Log] link available at the top menu, the [Replication Log] panel will appear. It lists all replication activities logged within a date. You can review the replication activities recorded on any particular date by selecting the required date from the drop down list.
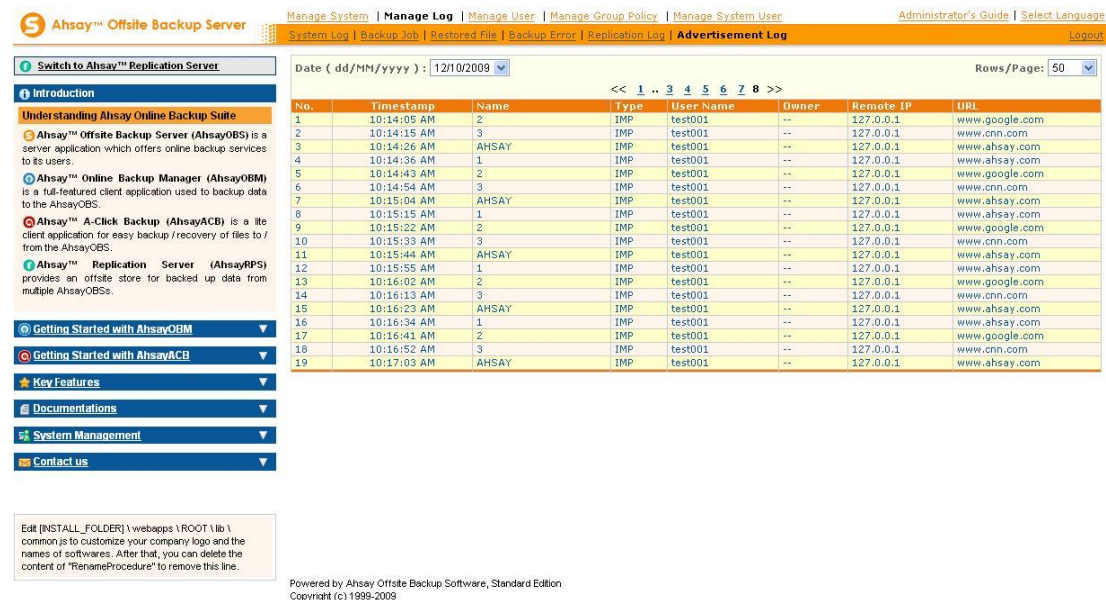
Key	Description
Date	The date when the replication activities were logged.
Rows/Page	The number of rows to display per page.
Timestamp	The time when the replication was displayed.
Message	Details of the activities.

21.6 Reviewing Advertisement Log

When you click the [Manage Log] -> [Advertisement Log] link available at the top menu, the [Advertisement Log] panel will appear. It lists all the advertisements displayed by AhsayOBM/AhsayACB clients for a particular date. You can review displayed adverts on any particular date by selecting the required date from the dropdown list.

Key	Description
Date	The date when the advertisements listed below were displayed.
Rows/Page	The number of rows to display per page.
Timestamp	The time when the advertisement was displayed.
Name	The name of the advertisement.
Type	Advertisement display types: • IMP – Impression, this advertisement was displayed. • HIT – Hit, this advertisement was displayed and the user clicked the advert to go to the target web page.
User Name	The user account name of the AhsayOBM/AhsayACB client.
Owner	The owner of this backup user.
Remote IP	The remote IP address of the AhsayOBM/AhsayACB client.
URL	The target URL associated with this ad.

22 Branding AhsayOBM & AhsayACB

22.1 Customization Portal

The Ahsay Customization Portal (http://partners.ahsay.com/) allows you to do the followings:

1. Building custom installers for the followings Ahsay products:

   • AhsayOBS and AhsayRPS

   • AhsayACB and AhsayOBM

   • AhsayNCU (For AhsayOBS v5.5 or below)

2. Set the vendor name, support email and URL to your own values.

3. Put your own company logo and other images into the software.

4. Set the default backup server hostname, TCP port number and protocol (HTTP/HTTPS) to your own values.

5. Hide/Show encrypting key checkbox in AhsayACB/AhsayOBM.

6. Hide/Show language selection list in AhsayACB/AhsayOBM.

7. Hide/Show the backup server URL textbox.

8. Set the default language for AhsayACB/AhsayOBM.

9. Enable/Disable languages for AhsayACB/AhsayOBM.

10. Enable/Disable user account profile update from AhsayACB/AhsayOBM.

11. Customize the terms of use statements shown in the installer of AhsayACB/AhsayOBM.

Once you have made all the customization you want, you can download a customized version of AhsayOBSR / AhsayACB / AhsayOBM / AhsayNCU from the download page (shown below) of the customization portal.

Please refer to the Ahsay Customization Portal User Guide from the Ahsay Customization Portal for more information.

23 Branding AhsayOBS

This chapter describes how you can customize AhsayOBS to make it look the way you want it to be.

23.1 Welcome Page

If you would like to use your own welcome page on the backup server, simply replace the default welcome page, %OBSR_HOME%\webapps\ROOT\index.html, with your own welcome page.

23.2 Different welcome pages for different domains

If you want to show different welcome pages for requests to different domain names, please do the followings:

1. Rename %OBSR_HOME%\webapps\ROOT\index.html to %OBSR_HOME%\webapps\ROOT\index_defaultDomain.html

2. Create %OBSR_HOME%\webapps\ROOT\index.jsp with the following content. Suppose you have 4 domains in total. If you want requests to AhsayOBS using the domain name "domain2.com" to see "index_Domain2.html" and request to AhsayOBS using the domain name "domain3.com" to see "index_Domain3.html", you should put the highlighted code below.

%OBSR_HOME%\webapps\ROOT\index.jsp

```
<%@ page language="java" %>
<%--

  If you want to redirect request from different domains to different
  index pages, please modify the "domain to URL mapping" defined by
the
  String array declaration below to define your own mapping.

--%>
<%
String sURL = "index_defaultDomain.html";
    String                    sRequestURL                    =
request.getRequestURL().toString().toLowerCase();
    String[] asMap = {
        "domain2.com", "index_Domain2.html",
        "domain3.com", "index_Domain3.html",
    };
    for(int i=0; asMap!=null && i<asMap.length; i+=2) {
        String sDomain = asMap[i].toLowerCase();
        if(sRequestURL.indexOf(sDomain)!=-1) {
            sURL=asMap[i+1];
```

```
        break;
      }
    }
response.sendRedirect(sURL);
%>
```

Please note that you need to create both the "index_Domain2.html" and "index_Domain3.html" yourself and place it in the %OBSR_HOME%\webapps\ROOT directory.

23.3 Customizing the company logo displayed

Two different logos are displayed on the bottom left hand corner and bottom right hand corner of every page.
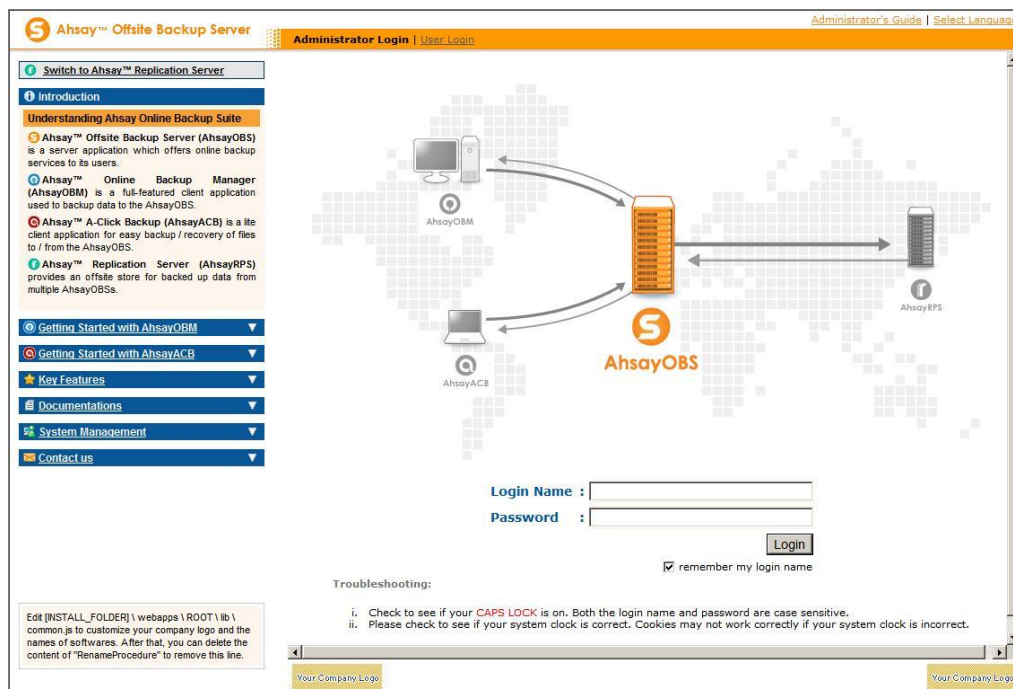
You can customize the logos shown on the bottom left hand corner and the bottom right hand corner of every page by:

1. Go to %OBSR_HOME%\webapps\obs\logo

2. To display your image at the bottom left hand corner of every page, simply save your image as "default.small.left.gif" in the directory above.

3. To display your image at the bottom right hand corner of every page, simply save your image as "default.small.right.gif" in the directory above.

4. If you do not want to display any images at these locations, just rename "empty.gif" to "default.small.left.gif" or "default.small.right.gif".

<u>Different logos for different domain names</u>

If you are mapping both domain <u>www.company-A.com</u> and domain <u>www.company-B.com</u> to the IP address of the AhsayOBS and you want to display different logos when users are browsing the web pages using different domain names, you can archieve that by the use of Reseller Panel feature:

1. Logon to AhsayOBS with the system admin role system user.

2. Go to [Manage System User] -> [Add System User] to create two sub-admin role system user account, 1 for <u>www.company-A.com</u> and <u>www.company-B.com</u>.

3. Logoff from AhsayOBS.

4. Logon with the Sub-Admin role system account of <u>www.company-A.com</u>.

5. Go to [Manage System User] -> [My Profile] page to download the default customization file by clickin on the "default customization file" link.

6. Unzip the zip file to a temporary directory and go to "gif" directory inside.

7. Replace small.right.gif and small.left.gif with the company logo of <u>www.company-A.com</u>.

8. Zip all the customized files with the name custom.zip.

9. On the [My Profile] page, check the [Customize Interface] checkbox.

10. Upload the custom.zip to the AhsayOBS by clicki non the [Browse] button and select the custom.zip file in the dialog.

11. Click the [Update] button to apply the change. This change should be applied to the AhsayOBS immediately.

12. Repeat the Step 4 - 11 for <u>www.company-B.com</u>.

23.4 Customizing the Look and Feel of the web interface

The Look and Feel (e.g. font size and color) of the web interface of AhsayOBS is defined by a set of rules defined in a cascade style sheet. If you want to customize the Look and Feel of the web interface to fully integrate AhsayOBS into your website, you can do the followings:

1. Open %OBSR_HOME%\webapps\obs\jsp\lib\jsp_*.css (e.g. en=English, fr=French, cs=Czech, da=Danish, nl=Dutch, de=German, es=Spanish, sv=Swedish, zh_TW=Traditional_Chinese, zh_CN=Simiplified_Chinese etc).

2. Make the changes to the cascade style sheet file to what you would like to see.

    For example, if you want to change the English user menu bar from yellowish color (#FFCC00) to red color. Please do the followings:

Extract of jsp_en.css (Original)

...
/* menu bar - background color; text color, weight */
.usermenu_menubar {
                background-color: #FFCC00;
              color: #000000
            font-weight: normal
}
...

Extract of jsp_en.css (Updated)

...
/* menu bar - background color; text color, weight */
.usermenu_menubar {
                background-color: red;
              color: #000000
            font-weight: normal
}
...

3. Restart your browser to see the changes.

23.5   Customizing all text of the web interface

All text displayed on the web interface of AhsayOBS is stored in properties files. If you want to modify any of the text information on the web interface, please do the followings:

1.   Connect to Ahsay Customization Portal.

2.   Go to [Step 1 – Customize Properties].

3.   Select "OBS – Web Interface" on the customize properties page.

4.   Modify the entries that you want to customize.

5.   Press the [Generate and Download All Properties] button to download the customized properties files.

6.   Unzip the file downloaded in previous step.

7.   Copy the generated jsp_*.properties files found in properties.zip\custom-obsr\app\common\webapps\obs\WEB-INF\classes to %OBSR_HOME%\webapps\obs\WEB-INF\classes.

8.   Restart AhsayOBS backup services to apply the changes.

23.6   Customizing email reports

The instructions of customizing all text in all outgoing email reports is the same as the instruction of customizing all text displayed on the web interface. Simply do this:

1.   Go to Ahsay Customization Portal (AhsayACP).

2.   Click on [Step 1. Customize Properties].

3.   Select [OBS – Web Interface] from the group drop down menu.

4.   Modify the "jsp.report.*" entries that you would like to cusotmize.

5.   Press the [Generate and Download All Properties] button to download the customized properties files.

6.   Unzip the file downloaded in previous step.

7.   Copy the generated jsp_*.properties files found in properties.zip\custom-obs\app\common\webapps\obs\WEB-INF\classes to %OBSR_HOME%\webapps\obs\WEB-INF\classes

8.   Restart AhsayOBS backup services to apply the changes.

If you are interested in displaying your own logo in all out-going email reports, simply replace %OBSR_HOME%\webapps\obs\logo\default.large.gif

with your own logo. All email reports sent after you have made the changes will carry your customized logo.

23.7   Localizing the software

It is currently possible to have AhsayOBS localized to another language without the assistance of your development team. The list of supported languages is attached in the appendix section.

 If you would like to have AhsayOBS available in languages other than those currently supported, please feel free to contact us to discuss possible arrangement.

24 Advanced Configuration

The default installation of AhsayOBS setup a typical environment to run your backup server but it is still possible that the default setting does not fit well into your environment. This chapter describes all supported customizations that you can do to the software to fulfill your special needs.

24.1 Listening to non-standard TCP/IP Port

If you like to run your own web server, or some other services using port 80 and 433, on your backup server, you can change the listening TCP/IP port of AhsayOBS from port 80 and 443 to some other port numbers by:

1. Open %OBSR_HOME%\conf\server.xml

Server.xml
<Server port="8014" shutdown="SHUTDOWN" debug="0"> <Service name="Tomcat-Standalone"> <!-- Define a non-SSL HTTP/1.1 Connector on port 80 --> <Connector className="org.apache.coyote.tomcat5.CoyoteConnector"   address="0.0.0.0" port="**80**" maxHttpHeaderSize="8192" maxKeepAliveRequests="1"   maxThreads="1000" minSpareThreads="25" maxSpareThreads="100"   enableLookups="false" redirectPort="443" bufferSize="32768" acceptCount="1000"   connectionTimeout="600000" disableUploadTimeout="true"/> <!-- Define a SSL HTTP/1.1 Connector on port 443 --> <Connector className="org.apache.coyote.tomcat5.CoyoteConnector"   address="0.0.0.0" port="**443**" maxHttpHeaderSize="8192" maxKeepAliveRequests="1"   maxThreads="1000" minSpareThreads="25" maxSpareThreads="100"   enableLookups="false" disableUploadTimeout="true"   acceptCount="1000" bufferSize="32768" scheme="https" secure="true"   keystoreFile="conf/keystore" keystorePass="changeit"   clientAuth="false" sslProtocols="TLSv1" connectionTimeout="600000"/>

2. Change the [port] values (shown in red and bold above) to the preferred port numbers. For example, to change the HTTP port from port 80 to

8080 and HTTPS port from port 443 to port 8443, please do the followings:

port="80" -> port="8080"

redirectPort="443" -> redirectPort="8443"

port="443" -> port "8443"

3. Restart AhsayOBS.

4. Logon the System Management Console.

24.2 Listening to a single IP address

If the backup server has more than one network interface installed or has more than one IP address bind to a single network interface, you can configure AhsayOBS to use only a single IP address for backup services (by default the TCP port of all IP addresses available within the system are used and open). This has the benefits of sparing other IP addresses for other applications, e.g. Apache Web Server or Microsoft Internet Information Server (IIS). To do so,

1. Open %OBSR_HOME%\conf\server.xml

server.xml

`<Server port="8014" shutdown="SHUTDOWN" debug="0">`
 	
  `<Service name="Tomcat-Standalone">`
 	
    `<!-- Define a non-SSL HTTP/1.1 Connector on port 80 -->`
    `<Connector className="org.apache.coyote.tomcat5.CoyoteConnector"`
        `address="`**0.0.0.0**`" port="80" maxHttpHeaderSize="8192" maxKeepAliveRequests="1"`
        `maxThreads="1000" minSpareThreads="25" maxSpareThreads="100"`
        `enableLookups="false" redirectPort="443" bufferSize="32768" acceptCount="1000"`
        `connectionTimeout="600000" disableUploadTimeout="true"/>`
 	
    `<!-- Define a SSL HTTP/1.1 Connector on port 443 -->`
    `<Connector className="org.apache.coyote.tomcat5.CoyoteConnector"`
        `address="`**0.0.0.0**`" port="443" maxHttpHeaderSize="8192" maxKeepAliveRequests="1"`
        `maxThreads="1000" minSpareThreads="25" maxSpareThreads="100"`
        `enableLookups="false" disableUploadTimeout="true"`
        `acceptCount="1000" bufferSize="32768" scheme="https" secure="true"`
        `keystoreFile="conf/keystore" keystorePass="changeit"`

```
            clientAuth="false" sslProtocols="TLSv1"
connectionTimeout="600000"/>
```

2.   Change the [address] values (shown in red and bold above) to the IP addresses that are to be used for AhsayOBS. For example, to use only the IP address, 192.168.1.1, for backup services, change address values from "0.0.0.0" (means all available IP addresses) to "192.168.1.1".

     address="0.0.0.0" -> address="192.168.1.1"

3.   Restart AhsayOBS.

If you are going to use IIS along with AhsayOBS on different IP addresses as mentioned here, please make sure that you have configured IIS to spare the IP address configured above to be used by AhsayOBS (by default IIS will use all the IP addresses available). Failing to do so will result in failing to start both IIS and AhsayOBS at the same time.

24.3   Restricting access to system page by IP address

For better security, you can restrict access to the system administration console by IP addresses. To do so, please do the followings:

1.   Open %OBSR_HOME%\webapps\obs\WEB-INF\web.xml.

2.   Locate the SystemConsole filter under "filter" section near the beginning of "web.xml".

---

web.xml

...
  <filter>
   <filter-name>SystemConsole</filter-name>
   <filter-class>com.ahsay.obs.www.IPFilter</filter-class>
   <init-param>
    <param-name>Range1</param-name>
    <param-value>localhost</param-value>
   </init-param>
   <init-param>
    <param-name>Range2</param-name>
    *<param-value>**0.0.0.0-255.255.255.255**</param-value>*
   </init-param>
  </filter>
...

---

3.   Change the "Range2" parameter value from "0.0.0.0-255.255.255.255" (shown in red and bold above) to a range of IP addresses from where access to the system administration console is allowed.

     For example, changing [Range2] value from "0.0.0.0-255.255.255.255" to "192.168.1.1-192.168.1.255" to allow the 192.168.1.x network to invoke the APIs.

web.xml (Updated)

```
...
  <filter>
   <filter-name>SystemConsole</filter-name>
   <filter-class>com.ahsay.obs.www.IPFilter</filter-class>
   <init-param>
     <param-name>Range1</param-name>
     <param-value>localhost</param-value>
   </init-param>
   <init-param>
     <param-name>Range2</param-name>
     <param-value>192.168.1.1-192.168.1.255</param-value>
   </init-param>
  </filter>
...
```

Please note that you can configure more than one IP range by adding additional init parameters (i.e. "Range3", "Range4" and so on) to the filter XML tag. For example:

```
  <filter>
   <filter-name>SystemConsole</filter-name>
   <filter-class>com.ahsay.obs.www.IPFilter</filter-class>
   <init-param>
     <param-name>Range1</param-name>
     <param-value>localhost</param-value>
   </init-param>
   <init-param>
     <param-name>Range2</param-name>
     <param-value>192.168.1.1-192.168.1.255</param-value>
   </init-param>
   <init-param>
     <param-name>Range3</param-name>
     <param-value>192.168.2.1-192.168.2.255</param-value>
   </init-param>
  </filter>
```

4.   Restart AhsayOBS.

25 External API References

AhsayOBS contains a set of APIs (Application Programming Interface), which allows you to integrate external applications (e.g. billing system or automated registration system) with AhsayOBS. This chapter describes what APIs are available and how you can invoke different APIs.

You can find more information on processing XML using JAVA at http://java.sun.com/xml.

25.1 Overview

AhsayOBS APIs can be invoked by using standard HTTP request method (i.e. either POST or GET). For example, to invoke the [Remove User] API, simply use any programming /scripting languages of your choice to invoke: http://BACKUP_SERVER/obs/api/RemoveUser.do?SysUser=system&SysPwd= system&LoginName=test to delete user "test".

URL encoding must be applied to all non-alphanumeric parameters when submitting the API requests as specified in the HTTP protocol specification. For example, a value of "GMT-08:00 (PSL)" must submit to AhsayOBS as "GMT%2d08%3a00+%28PST%29" via external API.

Since 6.11.0.0, API has extended the access permission from system user only to users with administrative role. All the API with the parameters **SysUser** and **SysPwd** are referring to the system users with the role set to "Admin".

25.2 Limitations

Here is the limitation for using API:

- Currently, API only supports modifications related to backup users or backup user groups.

25.3 IP Restrictions

To avoid AhsayOBS's APIs from being exploited by hackers from an unauthorized network, AhsayOBS, by default, accepts and handles only the API requests originating from the same local machine. To loosen this restriction, please do the followings:

1. Open %OBSR_HOME%\webapps\obs\WEB-INF\web.xml.

2. Locate the ApiAccess filter under the "filter" section.

3. Change the [Range2] parameter value from "0.0.0.0-255.255.255.255" (shown in red and bold above) to another range of IP addresses from where APIs can be invoked.

---

web.xml

```
...
  <filter>
   <filter-name>ApiAccess</filter-name>
   <filter-class>com.ahsay.obs.www.IPFilter</filter-class>
   <init-param>
     <param-name>Range1</param-name>
     <param-value>localhost</param-value>
   </init-param>
   <init-param>
     <param-name>Range2</param-name>
     <param-value>0.0.0.0-255.255.255.255</param-value>
   </init-param>
  </filter>
...
```

For example, changing [Range2] value from "0.0.0.0-255.255.255.255" to "192.168.1.1-192.168.1.255" to allow the 192.168.1.x network to invoke the APIs.

---

web.xml (Updated)

```
...
  <filter>
   <filter-name>ApiAccess</filter-name>
   <filter-class>com.ahsay.obs.www.IPFilter</filter-class>
   <init-param>
     <param-name>Range1</param-name>
     <param-value>localhost</param-value>
   </init-param>
   <init-param>
     <param-name>Range2</param-name>
     <param-value>192.168.1.1-192.168.1.255</param-value>
   </init-param>
  </filter>
...
```

Please note that you can configure more than two IP ranges by adding additional init parameters (i.e. "Range3", "Range4" and so on) to the filter XML tag. For example:

```
...
  <filter>
   <filter-name>ApiAccess</filter-name>
   <filter-class>com.ahsay.obs.www.IPFilter</filter-class>
   <init-param>
```

```
                <param-name>Range1</param-name>
                <param-value>localhost</param-value>
            </init-param>
            <init-param>
                <param-name>Range2</param-name>
                <param-value>192.168.1.1-192.168.1.255</param-value>
            </init-param>
            <init-param>
                <param-name>Range3</param-name>
                <param-value>192.168.2.1-192.168.2.255</param-value>
            </init-param>
        </filter>
...
```

4.   Restart AhsayOBS.

25.4 User Authorization

The following table describes all information required to invoke the [Auth User] API to check whether an existing user is authorized.

URL:		
http://BACKUP_SERVER/obs/api/AuthUser.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	Login name of the user
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Password	String	Login password of the user
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		

If successful, returns <OK/>

If there is an error, returns <err>%ERROR_MESSAGE%</err>

i. Login name does not exist or incorrect login name

<err>[UserCacheManager.NoSuchUserExpt] User '%USER_NAME%' not found.</err>

ii. Incorrect user password specified

<err>[UserCacheManager.PasswordIncorrectExpt] Incorrect password for user '%USER_NAME%'.</err>

iii. Incorrect system username and or password

<err>Incorrect system username/password</err>

Example:

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	To verify the a user with user name "test" and password "abc" http://BACKUP_SERVER/obs/api/AuthUser.do?SysUser=system&SysPwd=system&LoginName=test&Password=abc
Example for AhsayRDR:	
	To verify the a user with user name "test" and password "abc" http://REDIRECTOR_SERVER/rdr/api/AuthUser.do?SysUser=system&SysPwd=system&LoginName=test&Password=abc&Host=obs.yourserver.com

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25.5   Adding User

The following table describes all information required to invoke the [Add User] API to add a new user to AhsayOBS. For using this API with AhsayRDR, new backup user will be added to first user home defined in AhsayOBS user homes settings by default.

URL:		
http://BACKUP_SERVER/obs/api/AddUser.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	New user's login Name
Owner	String	Owner of new backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Password	String	New user's password
Alias	String	New user's alias
Language	String	New user's language
Type	String	New user's type
AdGroup	String	Advertisement group. { ALL	NONE	<ADGROUP_ID> }
Quota	Number	New user's quota, e.g. 104857600 (for 100MB)
UserHome	String	(Optional) User Home to use for the new user It can be any one of the configured user home. E.g. C:\Program Files\AhsayOBS and AhsayRPS\user First available user home will be allocated when UserHome is emptied or not given
EnableMSSQL	Boolean	Whether to enable Microsoft SQL Server module for the new user. { Y	N }
EnableMSExchange	Boolean	Whether to enable Microsoft Exchange Server module for the new user. { Y	N }
MsExchangeQuota	Number	The number of Microsoft Exchange Server allowed for the new user (added

			since v6.11.0.0)
	EnableOracle	Boolean	Whether to enable Oracle module for the new user. { Y | N }
	EnableLotusNotes	Boolean	Whether to enable Lotus Notes module for the new user.{ Y | N }
	EnableLotusDomino	Boolean	Whether to enable Lotus Domino module for the new user. { Y | N }
	EnableMySQL	Boolean	Whether to enable MySQL module for the new user. { Y | N }
	EnableInFileDelta	Boolean	Whether to enable In-File Delta Module for the new user. { Y | N }
	EnableShadowCopy	Boolean	Whether to enable ShadowCopy module for the new user. { Y | N }
	EnableExchangeMailbox	Boolean	Whether to enable Brick Level Microsoft Exchange module for the new user. { Y | N }
	EnableCDP	Boolean	Whether to enable Continuous Data Protection (CDP) module for the new user. { Y | N }
	EnableShadowProtectBareMetal	Boolean	Whether to enable StorageCraft Shadow Protect module for the new user. { Y | N } (added since v5.5.5.0)
	EnableWinServer2008BareMetal	Boolean	Whether to enable Windows Server 2008 bare metal module for the new user. { Y | N } (added since v5.5.5.0)
	ExchangeMailboxQuota	Number	The number of Microsoft Exchange mailboxes allowed for the new user
	EnableNASClient	Boolean	Whether to enable AhsayOBM JVM Royalty for the new user. { Y | N }
	EnableDeltaMerge	Boolean	Whether to enable Enable Delta Merge module for the new user. { Y | N } (added since v6.3.0.0)
	EnableMsVm	Boolean	Whether to enable HyperV module for the new user. { Y | N } (added since v6.3.0.0)
	MsVmQuota	Number	The number of HyperV Guest VM allowed for the new user (added since v6.3.0.0)
	EnableVMware	Boolean	Whether to enable VMware module for the new user. { Y | N } (added since v6.3.0.0)
	VMwareQuota	Number	The number of VMware Guest VM allowed for the new user (added since v6.3.0.0)
	Contact	String	Extra contact name. (Max: 9) Notes: There can be more than one extra name added, extra contact name must be in pair with extra email
	Email	String	Extra contact e-mail. (Max: 9)

			Notes: There can be more than one extra email added. Extra contact email must be in pair with extra contact name.
	Timezone	String	New User's time zone setting. It has to be either one of the following entries: Please make sure the parameter is properly URL encoded. E.g. GMT-08:00 (PST) => GMT%2d08%3a00+%28PST%29
	Bandwidth	Number	0 = Unlimited Bandwidth
	Notes	String	
	Email	String	New user's contact email
	SendWelcomeMail	Boolean	{ Y | N }
	SuspendPaidUser	Boolean	{ Y | N }
	SuspendPaidUserDate	String	A date in yyyy-MM-dd format
	Replicated	Boolean	Whether to replicate the new user. { Y | N }
	Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
	ClientType	String	Type of client application {OBM | ACB}
Return Value:			
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>			
Example:			
http://BACKUP_SERVER/obs/api/AddUser.do?SysUser=system&SysPwd=system&LoginName=test&Password=abc&Alias=Testing&Language=en&Email=abc%40abc%2Ecom&Type=PAID&Quota=100000&UserHome=E%3A%5C&EnableMSSQL=Y&EnableMSExchange=Y&EnableOracle=Y&EnableLotusNotes=Y&EnableLotusDomino=Y&EnableMySQL=Y&EnableInFileDelta=Y&EnableShadowCopy=Y&EnableCDP=Y&EnableShadowProtectBareMetal=Y&EnableWinServer2008BareMetal=Y&EnableDeltaMerge=Y&EnableMsVm=Y&MsVmQuota=10&EnableVMware=Y&VMwareQuota=10&Timezone=GMT%2d08%3a00+%28PST%29&Contact1=john&Email1=john%40someDomain%2Ecom&Contact2=paul&Email2=paul%40anotherDomain%2Ecom&EnableExchangeMailbox=Y&ExchangeMailboxQuota=10&ClientType=OBM			
Example for AhsayRDR:			
http://REDIRECTOR_SERVER/rdr/api/AddUser.do?SysUser=system&SysPwd=system&LoginName=test&Password=abc&Alias=Testing&Language=en&Email=abc%40abc%2Ecom&Type=PAID&Quota=100000&UserHome=E%3A%5C&EnableMSSQL=Y&EnableMSExchange=Y&EnableOracle=Y&EnableLotusNotes=Y&EnableLotusDomino=Y&EnableMySQL=Y&EnableInFileDelta=Y&EnableShadowCopy=Y&EnableCDP=Y&EnableShadowProtectBareMetal=Y&EnableWinServer2008BareMetal=Y&EnableDeltaMerge=Y&EnableMsVm=Y&MsVmQuota=10&EnableVMware=Y&VMwareQuota=10&Timezone=GMT%2d08%3a00+%28PST%29&Contact1=john&Email1=john%40someDomain%2Ecom&Contact2=paul&Email2=paul%40anotherDomain%2Ecom&EnableExchangeMailbox=Y&ExchangeMailboxQuota=10&ClientType=OBM&Host=			

obs.yourserver.com

25.6 Modifying User Profile

The following table describes all information required to invoke the [Modify User] API to update a user's profile in an AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/ModifyUser.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	User's login Name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Password	String	New user's password
Alias	String	New user's alias
Language	String	New user's language Please refer to Appendix A for the list of available languages.
Type	String	New user's type
ClientType	String	New user's Client Type
AdGroup	String	Advertisement group. { ALL | NONE | <ADGROUP_ID> }
Quota	Number	New user's quota, e.g. 104857600 (for 100MB)
UserHome	String	User Home to use for the user (must be one of the configured user home), e.g. C:\Program Files\AhsayOBS and AhsayRPS\user
Status	String	The user status {ENABLE | SUSPENDED}
EnableMSSQL	Boolean	Whether to enable Microsoft SQL Server module for the user. { Y | N }
EnableMSExchange	Boolean	Whether to enable Microsoft Exchange Server module for the user. { Y | N }
MsExchangeQuota	Number	The number of MS Exchange Server

		allowed for the user (added since v6.11.0.0)
EnableOracle	Boolean	Whether to enable Oracle module for the user. { Y | N }
EnableLotusNotes	Boolean	Whether to enable Lotus Notes module for the user. { Y | N }
EnableLotusDomino	Boolean	Whether to enable Lotus Domino module for the user. { Y | N }
EnableMySQL	Boolean	Whether to enable MySQL module for the user. { Y | N }
EnableInFileDelta	Boolean	Whether to enable In-File Delta Module for the user. { Y | N }
EnableShadowCopy	Boolean	Whether to enable ShadowCopy module for the user. { Y | N }
EnableExchangeMailbox	Boolean	Whether to enable Brick Level Microsoft Exchange module for the user. { Y | N }
EnableCDP	Boolean	Whether to enable Continuous Data Protection (CDP) module for the user. { Y | N }
EnableShadowProtectBareMetal	Boolean	Whether to enable StorageCraft Shadow Protect module for the user. { Y | N } (added since v5.5.5.0)
EnableWinServer2008BareMetal	Boolean	Whether to enable Windows Server 2008 bare metal module for the user. { Y | N } (added since v5.5.5.0)
ExchangeMailboxQuota	Number	The number of Microsoft Exchange mailboxes allowed for the user
EnableDeltaMerge	Boolean	Whether to enable Enable Delta Merge module for the user. { Y | N } (added since v6.3.0.0)
EnableMsVm	Boolean	Whether to enable HyperV module for the user. { Y | N } (added since v6.3.0.0)
MsVmQuota	Number	The number of HyperV Guest VM allowed for the user (added since v6.3.0.0)
EnableVMware	Boolean	Whether to enable VMware module for the user. { Y | N } (added since v6.3.0.0)
VMwareQuota	Number	The number of VMware Guest VM allowed for the new user (added since v6.3.0.0)
EnableNASClient	Boolean	Whether to enable AhsayOBM JVM Royalty for the new user. { Y | N }
AppendContact	Boolean	Append or remove contact according to the value { Y | N }. If Y is set, new contact will be appended while set to N will remove contact. Also refer to the notes section in the next 2 pages.
Contact1-9	String	Extra contact name. (Max: 9) Eg: Contact1

			Notes: There can be more than one extra name added, extra contact name must be in pair with extra email.
	Email1-9	String	Extra contact e-mail. (Max: 9) Eg: Email1 Notes: There can be more than one extra email added, extra contact email must be in pair with extra contact name.
	AppendContact	Boolean	Modify an existing contact according to the value { Y | N }. If Y is set, and the OldContact, NewContact information is available, the OldContact will replace the information with NewContact. Also refer to the notes section in the next 2 pages.
	OldContact1-9	String	Old contact. (Max: 9) Eg: OldContact1 Notes: It is required to work with AppendContact, also refer to the notes section in the next 2 pages.
	NewContact1-9	String	New contact. (Max: 9) Eg: NewContact1 Notes: It is required to work with AppendContact, also refer to the notes section in the next 2 pages.
	Timezone	String	New User's time zone setting. It has to be either one of the following entries: Please make sure the parameter is properly URL encoded. E.g. GMT-08:00 (PST) => GMT%2d08%3a00+%28PST%29 Please refer to Appendix B for the list of available timezone.
	Bandwidth	Number	0 = Unlimited Bandwidth
	Notes	String	Notes for the user.
	SuspendPaidUser	String	Whether to suspend paid user { Y | N }
	SuspendPaidUserDate	String	A date in yyyy-MM-dd format
	Replicated	Boolean	Whether to replicate the user. { Y | N }
	Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:			
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>			
Example:			

http://BACKUP_SERVER/obs/api/ModifyUser.do?SysUser=system&SysPwd=system&LoginName=test&Password=abc&Alias=Testing&Language=en&Type=PAID&Status=ENABLE&Quota=100000&UserHome=E%3A5C&EnableMSSQL=Y&EnableMSExchange=Y&MsExchangeQuota=1&EnableOracle=Y&EnableLotusNotes=Y&EnableLotusDomino=Y&EnableMySQL=Y&EnableInFileDelta=Y&EnableShadowCopy=Y&EnableCDP=Y&EnableShadowProtectBareMetal=Y&EnableWinServer2008BareMetal=Y&EnableDeltaMerge=Y&EnableMsVm=Y&MsVmQuota=10&EnableVMware=Y&VMwareQuota=10&AppendContact=Y&Contact1=john.john&Email1=john.john%40someDomain%2Ecom&Contact2=paul&Email2=paul%40anotherDomain%2Ecom&EnableExchangeMailbox=Y&ExchangeMailboxQuota=10&ClientType=OBM

Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ModifyUser.do?SysUser=system&SysPwd=system&LoginName=test&Password=abc&Alias=Testing&Language=en&Type=PAID&Status=ENABLE&Quota=100000&UserHome=E%3A%5C&EnableMSSQL=Y&EnableMSExchange=Y&MsExchangeQuota=1&EnableOracle=Y&EnableLotusNotes=Y&EnableLotusDomino=Y&EnableMySQL=Y&EnableInFileDelta=Y&EnableShadowCopy=Y&EnableCDP=Y&EnableShadowProtectBareMetal=Y&EnableWinServer2008BareMetal=Y&EnableDeltaMerge=Y&EnableMsVm=Y&MsVmQuota=10&EnableVMware=Y&VMwareQuota=10&AppendContact=Y&Contact1=john.john&Email1=john.john%40someDomain%2Ecom&Contact2=paul&Email2=paul%40anotherDomain%2Ecom&EnableExchangeMailbox=Y&ExchangeMailboxQuota=10&ClientType=OBM&Host=obs.yourserver.com

Notes about the "AppendContact" parameter:

Set "AppendContact=Y" would add new contacts to the user, while keeping the existing contacts untouched. The parameters "ContactX" and "EmailX" (X = 1,2,3,..., e.g. "Contact1" and "Email1") would also need to be involved in the API call in order to define the new contacts.

Disregarding the number of existing contacts in the user profile, "Contact1" and "Email1" are always used in the API call to add the first new contact to the user. "ContactX" and "EmailX" (X = 2,3,4,...) could also be configured afterwards in sequence in the same API call.

If the new contact information defined in "ContactX" and "EmailX" are identical to the existing contacts in the user profile, no duplicate contacts would be added to the user profile.

Case 1:
If user "admin" has 2 existing contacts:

1. Name: John Email: john@backupvault.com
2. Name: Peter Email: peter@backupvault.com

Add a new contact "Mary / mary@backupvault.com" and "Jane / jane@backupvault.com" to "admin" user.

http://BACKUP_SERVER/obs/api/ModifyUser.do?SysUser=system&SysPwd=system&LoginName=**admin**&AppendContact=**Y**&Contact1=**Mary**&Email1=**mary@backupvault.com**&Contact2=**Jane**&Email2=**jane@backupvault.com**

As a result 4 contacts are available in the admin user account.

1. Name: John Email: john@backupvault.com
2. Name: Peter Email: peter@backupvault.com
3. Name: Mary Email: mary@backupvault.com
4. Name: Jane Email: jane@backupvault.com

Set "AppendContact=N" would remove all the existing contacts in the user profile. "AppendContact=N" could be used alone with no "ContactX" and "EmailX" parameters defined in the API call. In such case, all the existing contacts in the user profile are deleted.

Meanwhile, by calling "AppendContact=N" with "ContactX" and "EmailX" defined, the API call would remove all the existing contacts in the user profile and add the new contacts defined in "ContactX" and "EmailX" to the user.

As a result, by configuring "AppendContact=N" with "ContactX" and "EmailX" defined, while "ContactX" and "EmailX" containing the identical contact information as the existing contacts in the user profile, the API call would keep the "ContactX" and "EmailX" defined in the API call undeleted and remove all other contacts.

Case 2a:

Base on the result in case 1, existing contacts can be removed by the following API in the "admin" user account.

http://BACKUP_SERVER/obs/api/ModifyUser.do?SysUser=system&SysPwd=system&LoginName=admin&AppendContact=**N**

As a result, no more contacts remained.

Case 2b:

Base on the result in case 1, replace the existing contact1 "John / john@backupvault.com" with "Tom / tom@backupvault.com" in the admin user account, and remove other contacts.

http://BACKUP_SERVER/obs/api/ModifyUser.do?SysUser=system&SysPwd=system&LoginName=admin&AppendContact=**N**&Contact1=**Tom**&Email1=**tom@backupvault.com**

Notes about the "ChangeContact" parameter:

The usage is similar to Case 2b in the previous notes, the "ChangeContact" option can replace an existing contact (OldContact) with a new contact information (NewContact).

For example:

Replace the existing contact1 "John / john@backupvault.com" with "Tom / tom@backupvault.com" in the admin user account.

http://BACKUP_SERVER/obs/api/ModifyUser.do?SysUser=system&SysPwd=system&LoginName=admin&ChangeContact=**Y**&OldContact1=**John**&OldEmail1=**john@backupvault.com**&NewContact1=**Tom**&NewEmail1=**tom@backupvault.com**

25.7 Deleting User

The following table describes all information required to invoke the [Remove User] API to remove an existing user from an AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/RemoveUser.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	Login name of the user
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err> i. LoginName incorrect or does not exist *<err>[UserCacheManager.NoSuchUserExpt] User '%USER_NAME%' not found.</err>* ii. Blank Login name specified *<err>[Error] Parameter LoginName is null/empty!</err>*		
Example:		
http://BACKUP_SERVER/obs/api/RemoveUser.do?SysUser=system&SysPwd=system&LoginName=test		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/RemoveUser.do?SysUser=system&SysPwd=system&LoginName=test&Host=obs.yourserver.com		

25.8   Listing Users

The following table describes all information required to invoke the [List Users] API to get a list of all users available within AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/ListUsers.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginNameOnly	String	Whether to display login names only
ClientTypeOnly	String	Whether to display client types and login names only.
Owner	String	Owner of backup users If parameter "Owner" is not used, all backup user accounts will be listed. If parameter "Owner" is used but empty, all backup users created by admin role system users will be listed. If parameter "Owner" is used and valid, all backup users created by the specified system user (admin or sub admin) will be listed.
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <users> <User LoginName="test1" Owner="" Alias="" UserType="PAID" ClientType="OBM" Quota="10737418240" Timezone="GMT+08:00 (CST)" Language="en" DataFile="1" DataSize="1536" RetainFile="0" RetainSize="0" EnableMSSQL="Y" EnableMSExchange="Y" EnableOracle="Y" EnableLotusNotes="Y" EnableLotusDomino="Y" EnableMySQL="Y" EnableInFileDelta="Y" EnableShadowCopy="Y" EnableExchangeMailbox="N" ExchangeMailboxQuota="0" EnableNASClient="Y" EnableDeltaMerge="Y" EnableMsVm="N" MsVmQuota="0" EnableVMware="N" VMwareQuota="0" Bandwidth="0" Notes="" Status="ENABLE" RegistrationDate="1302687743242" SuspendPaidUser="N" SuspendPaidUserDate="20140503" LastBackupDate="1302699594652" EnableCDP="Y" EnableShadowProtectBareMetal="Y"		

EnableWinServer2008BareMetal="Y"
Hostname="123.abc.com" FileSizeLimit="52428800"
ExcludeNetworkShare="Y"
><Contact Name=""Email="www@qqq.com"/>
</user>
…
</users>

If there is an error, returns <err>%ERROR_MESSAGE%</err>

Where
LoginName = login name
Owner = user's owner
Alias = user's alias
UserType = user type { PAID | TRIAL }
ClientType = client type { OBM | ACB }
Quota = quota in bytes
Timezone = user's time zone
Language = user's language
DataFile = total number of files in the data area
DataSize = total amount of bytes in the data area
RetainFile = total number of files in the retention area
RetainSize = total amount of bytes in the retention area
EnableMSSQL = MS SQL enabled { Y | N }
EnableMSExchange = MS Exchange Server enabled { Y | N }
MsExchangeQuota = MS Exchange Server quota
EnableOracle = Oracle enabled { Y | N }
EnableLotusNotes = Lotus Notes enabled { Y | N }
EnableLotusDomino = Lotus Domino enabled { Y | N }
EnableMySQL = MySQL enabled { Y | N }
EnableInFileDelta = In-file Delta enabled { Y | N }
EnableShadowCopy = Shadow Copy enabled { Y | N }
EnableExchangeMailbox = MS Exchange Mailbox enabled { Y | N }
EnableNASClient = AhsayOBM JVM Royalty enabled { Y | N }
EnableDeltaMerge = Delta Merge enabled { Y | N }
ExchangeMailboxQuota = MS Exchange Mailbox quota
EnableMsVm= HyperV module enable { Y | N }
MsVmQuota= HyperV Guest VM quota
EnableVMware= VMware module enable { Y | N }
VMwareQuota= VMware Guest VM quota
Bandwidth = user's bandwidth
Notes = user's notes
Status = status of user account { ENABLE | SUSPENDED }
RegistrationDate = registation date of user account
SuspendPaidUser = Status of the Paid User { Y | N }
SuspendPaidUserDate = Date t o suspend Paid User [yyyy-MM-dd]
LastBackupDate = Date of last backup [Unix time format in millisecond]
EnabledCDP = Continuous Data Protection (CDP) enabled { Y | N }
EnableShadowProtectBareMetal = ShadowProtectBareMetal enabled { Y | N }
EnableWinServer2008BareMetal = WinServer2008BareMetal enabled { Y | N }

Hostname = host of backup user resides FileSizeLimit = file size threshold in bytes ExcludeNetworkShare = network shares exclusion { Y | N }	
Example:	
http://BACKUP_SERVER/obs/api/ListUsers.do?SysUser=system&SysPwd=system	
http://BACKUP_SERVER/obs/api/ListUsers.do?SysUser=system&SysPwd=system&Owner=testing	
Example for AhsayRDR:	
http://REDIRECTOR_SERVER/rdr/api/ListUsers.do?SysUser=system&SysPwd=system&Host=obs.yourserver.com	

25.9 Getting User Information

The following table describes all information required to invoke the [Get User] API to get a user's account information.

URL:		
http://BACKUP_SERVER/obs/api/GetUser.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		

If successful, returns

<User LoginName="test1" Alias="" UserType="PAID" ClientType="OBM" Status="ENABLE" Quota="10737418240" Timezone="GMT+08:00 (CST)" Language="en" DataFile="1" DataSize="1536" RetainFile="0" RetainSize="0" UncompressedSize="0" UncompressedRetainSize="0" EnableMSSQL="Y" EnableMSExchange="Y" EnableOracle="Y" EnableLotusNotes="Y" EnableLotusDomino="Y" EnableMySQL="Y" EnableInFileDelta="Y" EnableShadowCopy="Y" EnableExchangeMailbox="N" ExchangeMailboxQuota="0" EnableNASClient="Y" EnableDeltaMerge="Y" EnableMsVm="N" MsVmQuota="0" EnableVMware="N" VMwareQuota="0" Bandwidth="0" Notes="" UserHome="E:\AhsayOBS and AhsayRPS\user\test1" RegistrationDate="1302687743242" MailboxUsage="0" SuspendPaidUser="N" SuspendPaidUserDate="20140503" LastBackupDate="1302699594652" Owner="" EnableCDP="Y" EnableShadowProtectBareMetal="Y" EnableWinServer2008BareMetal="Y" FileSizeLimit="52428800" ExcludeNetworkShare="Y"><Contact Name="" Email="www@qqq.com"/></User>

If there is an error, it returns <err>%ERROR_MESSAGE%</err>

Where

LoginName = login name
Alias = user's alias
UserType = user type { PAID | TRIAL }
ClientType = client type { OBM | ACB }
Status = status of user account { ENABLE | SUSPENDED }
Quota = quota in bytes
Timezone = user's timezone
Language = user's language
DataFile = total number of files in the data area
DataSize = total amount of bytes in the data area
RetainFile = total number of files in the retention area
RetainSize = total amount of bytes in the retention area
UncompressedSize = total amount (bytes) of uncompressed file size in data area
UncompressedRetainSize = total amount (bytes) of uncompressed file size in retention area
EnableMSSQL = MS SQL enabled { Y | N }
EnableMSExchange = MS Exchange Server enabled { Y | N }
MsExchangeQuota = MS Exchange Server quota
EnableOracle = Oracle enabled { Y | N }
EnableLotusNotes = Lotus Notes enabled { Y | N }
EnableLotusDomino = Lotus Domino enabled { Y | N }
EnableMySQL = MySQL enabled { Y | N }
EnableInFileDelta = In-file Delta enabled { Y | N }
EnableShadowCopy = Shadow Copy enabled { Y | N }
EnableExchangeMailbox = MS Exchange Mailbox enabled { Y | N }
ExchangeMailboxQuota = MS Exchange Mailbox quota
EnableNASClient = AhsayOBM JVM Royalty enabled { Y | N }
EnableDeltaMerge = Delta Merge enabled { Y | N }
EnableMsVm= HyperV module enable { Y | N }
MsVmQuota= HyperV Guest VM quota
EnableVMware= VMware module enable { Y | N }
VMwareQuota= VMware Guest VM quota
Bandwidth = user's bandwidth
Notes = user's notes
UserHome = the directory where AhsayOBS stores the backup files and backup logs
RegistrationDate = registation date of user account
MailboxUsage = the number of mailboxes used
SuspendPaidUser = Status of the Paid User { Y | N }
SuspendPaidUserDate = Date to suspend Paid User [yyyy-MM-dd]
LastBackupDate = Date of last backup [Unix time format in millisecond]
Owner = user's owner
EnabledCDP = Continuous Data Protection (CDP) enabled { Y | N }
EnableShadowProtectBareMetal = ShadowProtectBareMetal enabled { Y | N }
EnableWinServer2008BareMetal = WinServer2008BareMetal enabled { Y | N }
FileSizeLimit = file size threshold in bytes
ExcludeNetworkShare = network shares excludsion { Y | N }

Example:

http://BACKUP_SERVER/obs/api/GetUser.do?SysUser=system&SysPwd=system&LoginName=John
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/GetUser.do?SysUser=system&SysPwd=system&LoginName=John&Host=obs.yourserver.com

25.10 Adding a Backup Set

The following table describes all information required to invoke the [Add Backup Set] API to add a new backup set.

URL:		
http://BACKUP_SERVER/obs/api/AddBackupSet.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		

If successful, returns

<BackupSet ID="1122260638375"></BackupSet >

If there is an error, returns <err>%ERROR_MESSAGE%</err>

i. Login name incorrect or does not exist

<err>[UserCacheManager.NoSuchUserExpt] User '%USER_NAME%' not found.</err>

ii. Blank Login name specified

<err>[Error] Parameter LoginName is null/empty!</err>

iii. Cannot perform an add backup set to AhsayACB user account

<err>[Error] ACB backup user can only have one backup set.</err>

where
ID = new backup set ID

Example:
http://BACKUP_SERVER/obs/api/AddBackupSet.do?SysUser=system&SysPwd=system&LoginName=John
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/AddBackupSet.do?SysUser=system&SysPwd=system&LoginName=John&Host=obs.yourserver.com

25.11 Deleting a Backup Set

The following table describes all information required to invoke the [Delete Backup Set] API to delete a backup set for a particular user.

URL:		
http://BACKUP_SERVER/obs/api/DeleteBackupSet.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
BackupSetID	String	The ID of the backup set to delete
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err> i. Login name incorrect or does not exist *<err>[UserCacheManager.NoSuchUserExpt] User '%USER_NAME%' not found.</err>* ii. Blank Login name specified *<err>[Error] Parameter LoginName is null/empty!</err>* iii. Blank BackupSetID specified *<err>[Error] Parameter BackupSetID is null/empty!</err>*		
Example:		
http://BACKUP_SERVER/obs/api/DeleteBackupSet.do?SysUser=system&SysPwd=system&LoginName=John&BackupSetID=1122260638375		

Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/DeleteBackupSet.do?SysUser=system&SysPwd=system&LoginName=John&BackupSetID=1122260638375&Host=obs.yourserver.com

25.12 Listing Backup Sets

The following table describes all information required to invoke the [List Backup Sets] API to list all the backup sets for a particular user.

URL:		
http://BACKUP_SERVER/obs/api/ListBackupSets.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		

If successful, returns

```
<BackupSets>
<BackupSet ID="1302673387980" Name="BackupSet" Type="FILE"
/><BackupSet ID="1302673465574" Name="BackupSet (2)"
Type="VMware Virtualization" /><BackupSet ID="1303955350843"
Name="BackupSet (3)" Type="Microsoft Windows Virtualization"
/><BackupSet ID="-11302687382211" Name="enforced_test_win"
Type="FILE" /><BackupSet ID="1302682595966" Name="ESXi-demo"
Type="VMware Virtualization" /><BackupSet ID="1302684999063"
Name="hyperv" Type="Microsoft Windows Virtualization" /><BackupSet
ID="1303205174271" Name="HyperV-VSS" Type="Microsoft Windows
Virtualization" /><BackupSet ID="1303203620407" Name="Volumes"
Type="FILE" />
</BackupSets>
```

If there is an error, returns <err>%ERROR_MESSAGE%</err>

i. LoginName incorrect or does not exist

<err>[UserCacheManager.NoSuchUserExpt] User '%USER_NAME%' not

found.</err>

ii. Blank Login name specified

<err>[Error] Parameter LoginName is null/empty!</err>

Example:
http://BACKUP_SERVER/obs/api/ListBackupSets.do?SysUser=system&SysPwd=system&LoginName=John
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ListBackupSets.do?SysUser=system&SysPwd=system&LoginName=John&Host=obs.yourserver.com

25.13 Get Backup Set

The following table describes all information required to invoke the [Get Backup Set] API to get a backup set.

URL:		
http://BACKUP_SERVER/obs/api/GetBackupSet.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	Value	Descriptions
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
BackupSetID	String	The backup set ID
ShowStatusOnly	String	If ShowStatusOnly="N" (default if no value is specified) the full backup set configuration will be returned. If ShowStatusOnly="Y" a summary of the backup set configuration will be returned
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		
If successful, returns When ShowStatusOnly="Y" <BackupSet ID="1303106066451" Name="Exchange 2010 DB" Type="Microsoft Exchange Server"><RunBackup Run="N" BackupType="" JobID=""/></BackupSet> <u>When ShowStatusOnly="N" or if ShowStatusOnly is omitted from the API</u> <BackupSet ID="1303106066451" Name="Exchange 2010 DB" TransferBlockSize="262144" FollowSymbolicLink="N" WindowsFollowLink="Y" Os="" Type="Microsoft Exchange Server" AdminUsername="" AdminPassword="" WorkingDir="E:\temp"		

OracleSID="" Port="" Host="" LogRetentionDays="60" NotesINI=""
BackupSystemState="N" LanDomain="CSMAIL2010"
LanUsername="Administrator" LanPassword=""
LastBackupRun="1305550934179" LastBackupAccess="1305550944476"
EnableInFileDelta="Y" MinDeltaFileSize="26214400" DeltaBlockSize="-1"
MaxNumOfDelta="100" MaxDeltaRatio="50" EnableShadowCopy="N"
EnableOfflineBackup="N" EnableLogoutBackup="N" FullBackup="N"
LastBackupCompleted="1305550946617" BackupIntervalDay="1"
BackupIntervalHour="0" LogoutType="" OfflineNotificiationDay="7"
DeleteTempFile="N" SqlServer="" DefaultDeltaType="I"
TotalUncompressedDataSize="6471213979" NumberOfFiles="165"
TotalBackupSetSize="3124437892"
TotalBSetRetainUncompress="390795288" TotalBSetRetainFileNo="358"
TotalBsetRetainFileSize="19905055" TotalBsetRestoreSize="0"
TotalBsetRestoreNo="0" ScheduleHost="WIN2008A"
UploadPermission="N" EnableDeltaMerge="N" Version="14"
OfflineBackupComputerName=""
LogoutBackupReminderComputerName=""
CompressType="GzipBestSpeedCompression" OfflineShowReminder="Y"
LastCdpBackupRun="1405488853647"
VmwareAutoEnableCbt="Y"><SelectedSource>Microsoft Exchange
Server\Microsoft Information Store</SelectedSource><RunBackup
Run="N" BackupType=""/><WeeklySchedule ID="1302495192421"
Name="Database Backup Schedule" Sun="N" Mon="N" Tue="N" Wed="N"
Thu="Y" Fri="N" Sat="N" Hour="21" Minute="0" Duration="-1"
BackupType="DATABASE" LastUpdated="0" Interval="-1"
EnableSkipBackup="N"/><WeeklySchedule ID="1305623577798"
Name="Transaction log Backup Schedule" Sun="Y" Mon="Y" Tue="Y"
Wed="Y" Thu="N" Fri="N" Sat="N" Hour="21" Minute="0" Duration="-1"
BackupType="LOG" LastUpdated="1305550944476" Interval="-1"
EnableSkipBackup="N"/><RetentionPolicy Unit="DAYS"
Period="7"><RetentionSetting ID="1305623577798" Name="Default"
OverlapSensitive="N"></RetentionSetting></RetentionPolicy><ExtraLocal
Backup ENABLED="N" Zip="Y" BackupTo="C:\LocalBackup"
SkipOffsiteBackup="N"
SetLocalCopyPermission="N"/><DeltaWeeklySchedule Sun="" Mon=""
Tue="" Wed="" Thu="" Fri="" Sat=""/><DeltaMonthlySchedule Date=""
Occurrence="" Criteria="" JAN="" FEB="" MAR="" APR="" MAY="" JUN=""
JUL="" AUG="" SEP="" OCT="" NOV="" DEC=""/><Cdp EnableCDP="N"
CdpTimeMarkInterval="60" CdpMinUpdateInterval="10" Type="all-volume"
ExcludeSystemFiles="N" CdpComputerName="" IdlebkpIsConsiderCpu="N"
IdlebkpCpuTsh="0" IdlebkpIsConsiderNwk="N" IdlebkpNwkTsh="131072"
IdlebkpIsConsiderIpt="N"
IdlebkpIptObserveForSecond="60"></Cdp><EncryptingKey
KeyType="PWD" Algorithm="AES" Mode="ECB" Length="256"
Key="6ZoYxCjLONXyYIU2eJIuAw=="/></BackupSet>

If there is an error, returns

<err>[UserCacheManager] User 'Johnny' not found.</err>
<err>Backup Set for ID='1065821983563' not found</err>

where under
Tag <BACKUP_SET>
ID = backup set ID
Name = backup set name
TransferBlockSize = block size for transfer
FollowSymbolicLink = follow symbolic link (Linux only)
Os = Operating System
Type = backup set type
AdminUsername = administrator user name
AdminPassword = administrator password
WorkingDir = temporary working directory
OracleSID = Oracle SID setting
Port = Oracle port number
Host = Oracle hostname
LogRetentionDays = retention day logging
NotesINI = path location of notes.ini file
BackupSystemState = whether to backup system state
LanDomain = LAN domain name
LanUsername = LAN user name
LanPassword = LAN password
LastBackupRun = time of last backup run
LastBackupAccess = time of last backup
EnableInFileDelta = enabling in-file delta feature
MinDeltaFileSize = minimum delta file size setting field
DeltaBlockSize = delta block size setting field
MaxNumOfDelta = maximum delta number setting field
MaxDeltaRatio = maximum delta ratio setting field
EnableShadowCopy = enabling shadow copy feature field
EnableOfflineBackup = enabling offline copy feature filed
EnableLogoutBackup = enabling logout backup feature field
FullBackup = enabling full backup field
LastBackupCompleted = time when the last backup was completed
BackupIntervalDay = Offline backup day interval
BackupIntervalHour = Offline backup hour interval
LogoutType = unused
OfflineNotificiationDay = Offline backup email reminder days
DeleteTempFile = Remove temporary files after backup
SqlServer = SQL server hostname
DefaultDeltaType = Default in-file delta type
TotalUncompressedDataSize = Total uncompressed size in bytes of the
data area
NumberOfFiles = Total number of files in the data area
TotalBackupSetSize = Total compressed size in bytes of the data area
TotalBSetRetainUncompress = Total uncompressed size in bytes of the
retention area
TotalBSetRetainFileNo = Total number of files in the retention area
TotalBsetRetainFileSize = Total compressed size in bytes of the retention
area
TotalBsetRestoreFileSize = Total size in bytes of the files restored
TotalBsetRestoreNo = Total number of restoration done
ScheduleHost = Computer name of this backup set that the scheduler will

use to determine whether to run
EnableDeltaMerge = Delta merge enabled { Y | N }
Version = Version number for MS Exchange Server
UploadPermission = Upload the file permission { Y | N }
OfflineBackupComputerName = Computer name of this backup set that
extra local backup will use to determine whether to run
LogoutBackupReminderComputerName = Computer name of this backup
set that the logout backup reminder will use to determine whether to run
CompressType = File size reduction {<Empty> | GzipDefaultCompression |
GzipBestSpeedCompression }
OfflineShowReminder = Show Offline Backup Reminder { Y | N }
LastCdpBackupRun = Time of last CDP backup run
VmwareAutoEnableCbt = Vmware auto enable Changed Block Tracking
(CBT) { Y | N }

Tag < SelectedSource >
SelectedSource = selected sources for backup

Tag < DeselectedSource >
DeselectedSource = deselected sources for backup

Tag <RunBackup>
Run = Whether the backup is pending
BackupType = Backup type { DATABASE | LOG | DIFFERENTIAL | COPY |
POWEROFF | SKIP }
JobID = Server initiated backup job ID in the format of yyyy-MM-dd-hh-
mm-ss (e.g. 2013-01-16-14-19-20)

Tag < DailySchedule >
ID = schedule ID
Name = schedule name
Hour = time setting for such schedule
Minute = time setting for such schedule
Duration = how long to run. Use -1 for "Stop on completion"
BackupType = Backup set type
LastUpdated = last updated time of schedule
Interval = how long to run backup

Tag < WeeklySchedule >
ID = schedule ID
Name = schedule name
Sun = enable field
Mon = enable field
Tue = enable field
Wed = enable field
Thu = enable field
Fri = enable field
Sat = enable field
Hour = time setting for such schedule
Minute = time setting for such schedule
Duration = how long to run. Use -1 for "Stop on completion"

BackupType = Backup set type
LastUpdated = last updated time of schedule
Interval = how long to run backup

Tag < MonthSchedule >
ID = schedule ID
Name = schedule name
Date = exact day of the month. When "0" use occurrence and criteria.
Occurrence= occurrence to run e.g. First, Second, Third, Forth Last
Criteria = day to run e.g. Monday, Tuesday, Wednesday, Thursday, Friday,
Saturday, Sunday
Hour = time setting for such schedule
Minute = time setting for such schedule
Duration = how long to run. Use -1 for "Stop on completion"
BackupType = Backup set type
LastUpdated = last updated time of schedule
Tag < CustomSchedule >
ID = schedule ID
Name = schedule name
BackupType = Backup set type
Date = the date to run this schedule
Hour = time setting for such schedule
Minute = time setting for such schedule
Duration = how long to run. Use -1 for "Stop on completion"
LastUpdated = last updated time of schedule

Tag < Filter>
ID = filter ID
Name = filter name
Type = filter type
TopDir = the top most directory to apply this filter
Include = filter mode
Only = filter mode
ApplyToDir = applying to such directory
ApplyToFile = applying to such file

Tag < Pattern>
Pattern = the filter pattern to apply

Tag < RetentionPolicy >
Unit= type for the retention policy, by JOB, DAYS, or CUSTOMIZE
Period= days for the policy

Tag < RetentionSetting >
ID = retention ID
OverlapSensitive = enable feature setting

Tag < Setting>
ID = retention ID
Name = retention name
Type = retention type. Allowed values are { DAILY | WEEKLY | MONTHLY |

QUARTERLY | YEARLY | CUSTOM }
NumOfCopiesToKeep = number of copies to keep
DateType = normally empty. Use "EXACT" when the date is known.
Sun, Mon, Tue, Wed, Thu, Fri, Sat = days enabled
Day, Week, Month, Year = date enabled

Tag < PreBackupCommand>
ID = pre-command ID
Name = pre-command name
Path = path for such pre command
WorkingDir = directory for such pre-command

Tag < PostBackupCommand >
ID = post command ID
Name = post command name
Path = path for such post command
WorkingDir = directory for such post command

Tag < AllowedIP >
ID = allowedIP ID
StartIP = Start of online restore IP range
EndIP = End of online restore IP range

Tag < ExtraLocalBackup >
ENABLED = enable "Extra Local Copy" feature field
Zip = zip the copied file feature
BackupTo = location to save extra copy
SkipOffsiteBackup = whether to skip off-site backup
SetLocalCopyPermission = set local copy permission
Tag < DeltaWeeklySchedule>
Sun, Mon, Tue, Wed, Thu, Fri, Sat = advance delta weekly schedule
enabled. { I | D | F }

Tag < DeltaMonthlySchedule>
Date = exact day of the month. When "0" use occurrence and criteria.
Occurrence= occurrence to run e.g. First, Second, Third, Forth Last
Criteria = day to run e.g. Monday, Tuesday, Wednesday, Thursday, Friday,
Saturday, Sunday
Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec = advance
monthly schedule enabled. { I | D | F }

Tag <Cdp>
EnableCdp = Continuous Data Protection (CDP) Enabled { Y | N }
CdpTimeMarkInterval = the interval of point-in-time views generated by
CDP
CdpMinUpdateInterval = the minimum interval that repeatedly updated
files are backup again
Type = Continuous Data Protection (CDP) type { all-volume | backup-
source | custom-source }
ExcludeSystemFiles = exclude system files { Y | N }
CdpComputerName = Computer name of this backup set that the Cdp will

use to determine whether to run
IdlebkpIsConsiderCpu = whether to consider Cpu { Y | N }
IdlebkpCpuTsh = the thredhold value of Cpu. If Cpu usage keeps below
than the threshold for 1 minute, then Cpu is idle.
IdlebkpIsConsiderNwk = whether to consider network (only the network
activity sending out) { Y | N }
IdlebkpNwkTsh = the thredhold value of network, in unit of "bytes sent per
second". If network usage is below than the thredhold 2 second, then
network is idle
IdlebkpIsConsiderIpt = whether to consider input activity { Y | N }
IdlebkpIptObserveForSecond = how long it observe. If no keyboard stroke
and mouse movement within the observer period, then input activity is
idle.

Tag <CdpFilter>
ID = Continuous Data Protection (CDP) filer ID
Name = Continuous Data Protection (CDP) filter name
Type = Continuous Data Protection (CDP) filter type
TopDir = the top most directory to apply this filter
Include = filter mode
ApplyToDir = applying to such directory
ApplyToFile = applying to such file
Only = Exclude matched option

Tag <Pattern>
Pattern = the filter pattern to apply

Tag <EncryptingKey>
KeyType = encrypting key type { PWD | CUSTOM | NOENCRYPT }
Algorithm = encrypting key algorithm { TwoFish | DESede | AES }
Mode = encrypting key mode { ECB | CBC}
Length = encrypting key length
Key = hashed encrypting key

Example:

http://BACKUP_SERVER/obs/api/GetBackupSet.do?SysUser=system&SysPwd=system&LoginName=John&BackupSetID=1077097041763&ShowStatusOnly=N

Example for AhsayRDR:

http://REDIRECTOR_SERVER/rdr/api/GetBackupSet.do?SysUser=system&SysPwd=system&LoginName=John&BackupSetID=1077097041763&ShowStatusOnly=N&Host=obs.yourserver.com

25.14 Updating a Backup Set

The following table describes all information required to invoke the [Update Backup Set] API to update a backup set. Note, use [Get Backup Set] API above to retrieve a backup set and save it as an xml file; modify the file as you need, and post it as a content using parameter name "Profile" when calling [Update Backup Set] API.

URL:		
http://BACKUP_SERVER/obs/api/UpdateBackupSet.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Profile	String	The whole content of backup set in XML format posted up when calling this API
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/UpdateBackupSet.do?SysUser=system&SysPwd=system&LoginName=John		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/UpdateBackupSet.do?SysUser=system&SysPwd=system&LoginName=John&Host=obs.yourserver.com		

25.15 Listing Backup Jobs

The following table describes all information required to invoke the [List Backup Jobs] API to get a list of all backup jobs for all backup sets.

URL:
http://BACKUP_SERVER/obs/api/ListBackupJobs.do
Available since version:
Pre-v6.0
Parameters:

	Key	Value	Descriptions
	SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
	SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
	LoginName	String	The user's login name
	Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
	CDP	Boolean	Continuous Data Protection { Y | N }
	SkipEmpty	String	Skip if backup job has no files { Y | N }
	Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL

Return Value:
If successful, returns \<BackupSets> \<BackupSet ID="1121746638656"> \<BackupJob ID="2005-12-29-12-00-00" /> \<BackupJob ID="2005-12-30-12-00-00" /> \<BackupJob ID="2005-12-31-12-00-00" /> \</BackupSet> … \</BackupSets> If there is an error, returns \<err>%ERROR_MESSAGE%\</err> i. LoginName incorrect or does not exist *\<err>[UserCacheManager.NoSuchUserExpt] User '%USER_NAME%' not found.\</err>* ii. Blank Login name specified

	<err>[Error] Parameter LoginName is null/empty!</err>
	Where under Tag <BackupSet> ID = backup set ID Tag <BackupJob> ID = backup job ID

Example:
http://BACKUP_SERVER/obs/api/ListBackupJobs.do?SysUser=system&SysPwd=system&LoginName=John
http://BACKUP_SERVER/obs/api/ListBackupJobs.do?SysUser=system&SysPwd=system&LoginName=John&CDP=Y
http://BACKUP_SERVER/obs/api/ListBackupJobs.do?SysUser=system&SysPwd=system&LoginName=John&CDP=Y&SkipEmpty=Y

Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ListBackupJobs.do?SysUser=system&SysPwd=system&LoginName=John&Host=obs.yourserver.com

25.16 Listing Backup Job Status

The following table describes all information required to invoke the [List Backup Job Status] API to get a list of all backup jobs for all backup sets.

URL:
http://BACKUP_SERVER/obs/api/ListBackupJobStatus.do
Available since version:
Pre-v6.0
Parameters:

	Key	Value	Descriptions
	SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
	SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
	LoginName	String	(Optional) The user's login name
	Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
	BackupDate	String	A date in yyyy-MM-dd format
	Cdp	Boolean	Continuous Data Protection { Y | N }
	Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL

Return Value:
If successful, returns <BackupJobs BackupDate="2010-06-09" > <BackupJob ID="2010-06-09-14-03-54" LoginName="ListBackupJobStatus" StartTime="2010-06-09 14:04:49" EndTime="2010-06-09 14:05:02" BackupJobStatus="BS_STOP_SUCCESS" BackupSetID="1276063418281" BackupSetName="File" UploadSize="11456" RunVersion="6.0.1.2" SuccessDatabase="Mailbox Database 2,Mailbox Database 3" MissedDatabase="" SuccessPublicFolder="" MissedPublicFolder=""/> </BackupJobs> If there is a Backup Job in progress, it returns "Backup in progress". If there is an error, it returns <err>%ERROR_MESSAGE%</err> i. LoginName incorrect or does not exist *<err>[UserCacheManager.NoSuchUserExpt] User '%USER_NAME%' not*

found.</err>

ii. Blank Login name specified

<err>[Error] Parameter LoginName is null/empty!</err>

iii. Either incorrect backup job date specified or No backup job was run for the specified date

<err>[Error] No Backup Job on that day</err>

iv. Incorrect Backupdate format specified. BackupDate=YYYY-MM-DD

<err>[Error] Parameter BackupDate is not in correct format!</err>

where under
Tag <BackupJobs>
BackupDate = date of backup
Tag <BackupJob>
ID = backup job ID
LoginName = user name
StartTime = job start time
EndTime = job end time
BackupJobStatus = the status of the backup job as follows:

1. BS_STOP_SUCCESS = backup completed successfully
2. BS_STOP_BY_SYSTEM_ERROR = backup stopped due to system error
3. BS_STOP_BY_SCHEDULER = backup stopped by scheduler
4. BS_STOP_BY_USER = backup stopped by user
5. BS_STOP_BY_QUOTA_EXCEEDED = backup stopped due to quota exceeded
6. BS_STOP_SUCCESS_WITH_ERROR = backup completed with errors
7. BS_STOP_SUCCESS_WITH_WARNING = backup completed with warnings
8. BS_STOP_MISSED_BACKUP = backup missed
9. BS_BACKUP_NOT_FINISHED = backup in progress
10. BS_MISSED_DATABASAE = backup completed with missed database(s) for MS Exchange Server / MailLevel Database Availability Group
11. BS_MISSED_PUBLIC_FOLDER = backup completed with missed public folder(s) for MS Exchange MailLevel Database Availability Group
12. BS_MISSED_VIRTUAL_MACHINE = backup completed with missed virtual machine(s) for MS Hyper-V Server (Failover Cluster)
13. Others = other client errors not defined above.

BackupSetID = backup set ID
BackupSetName = backup set name
UploadSize = total uploaded size
RunVersion = OBM / ACB version
SuccessDatabase = uploaded successfully database names
MissedDatabase = missed database names

	SuccessVirtualMachine = uploaded successfully virtual machine names MissedVirtualMachine = missed virtual machine names SuccessPublicFolder = uploaded successfully public folder names MissedPublicFolder = missed public folder names
Example:	
	http://BACKUP_SERVER/obs/api/ListBackupJobStatus.do?SysUser=system&SysPwd=system&LoginName=John&BackupDate=2007-01-08
Example for AhsayRDR:	
	http://REDIRECTOR_SERVER/rdr/api/ListBackupJobStatus.do?SysUser=system&SysPwd=system&LoginName=John&BackupDate=2007-01-08&Host=obs.yourserver.com

25.17 Getting Backup Job Report

The following table describes all information required to invoke the [Get Backup Job Report] API to get a backup job status.

URL:			
http://BACKUP_SERVER/obs/api/GetBackupJobReport.do			
Available since version:			
Pre-v6.0			
Parameters:			
Key	**Value**	**Descriptions**	
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)	
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)	
LoginName	String	The user's login name	
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.	
BackupSetID	String	A backup set ID	
BackupJobID	String	A backup job ID	
Cdp	String	Continuous Data Protection { Y | N }	
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL	
Return Value:			
If successful, returns <BackupJob ID="2005-07-19-12-11-20" StartTime=" 2005-07-19 12:11:20" EndTime="2005-07-19 12:21:20" BackupJobStatus="BS_STOP_SUCCESS"			

```
NumOfErrorEntries="0" NumOfWarnEntries="0"
NumOfNewFiles="1" TotalNewFilesSize="132864"
TotalUnzipNewFilesSize="3951322" NewFilesZipRatio="96%"
NumOfUpdatedFiles="1" TotalUpdatedFilesSize="132864"
TotalUnzipUpdatedFilesSize="3951322" UpdatedFilesZipRatio="96%"
NumOfUpdatedPermissionFiles="1"
TotalUpdatedPermissionFileSize="132864" TotalUnzipUpdatedPermissionFiles
NumOfDeletedFiles="1" TotalDeletedFilesSize="132864"
TotalUnzipDeletedFilesSize="3951322" DeletedFilesZipRatio="96%"
NumOfMovedFiles="1" TotalMovedFilesSize="132864"
TotalUnzipMovedFilesSize="3951322" MovedFilesZipRatio="96%"
NumOfCopiedFiles="" TotalCopiedSize="0" TotalUnzipCopiedFilesSize="0"
CopiedFilesZipRatio="0%" SuccessDatabase="Mailbox Database 2,Mailbox
Database 3" MissedDatabase="" SuccessPublicFolder=""
MissedPublicFolder="">

<Info Timestamp="2005-12-31 12:59:59" Message="??????" />
...
<Warn Timestamp="2005-12-31 12:59:59" Message="??????" />
...
<Error Timestamp="2005-12-31 12:59:59" Message="??????" />
...
<NewFile LastModified="2005-12-31 12:59:59" Name="C:\abc.doc"
          FileSize="374" UnzipFilesSize="11656" Ratio="63%"/>
...
<UpdatedFile LastModified="2005-12-31 12:59:59" Name="C:\abc.doc"
          FileSize="374" UnzipFilesSize="11656" Ratio="63%"/>

<UpdatedPermissionFile LastModified="2005-12-31 12:59:59"
Name="C:\abc.doc"
          FileSize="374" UnzipFilesSize="11656" Ratio="63%"/>
...
<DeletedFile LastModified="2005-12-31 12:59:59" Name="C:\abc.doc"
FileSize="374" UnzipFilesSize="11656" Ratio="63%"/>
...
<MovedFile LastModified="2005-12-31 12:59:59" FromFile="C:\abc.doc"
ToFile="C:\abc.doc"
          FileSize="374" UnzipFilesSize="11656" Ratio="63%"/>
...
</BackupJob>


If there is an error, returns <err>%ERROR_MESSAGE%</err>
```

where under
Tag <BackupJob>
ID = backup job ID
StartTime = backup job start time
EndTime = backup job end time
BackupJobStatus = status of backup job
NumOfErrorEntries = number of backup job errors
NumOfWarnEntries = number of backup job warnings

NumOfNewFiles = number of new files
TotalNewFilesSize = new files size
TotalUnzipNewFilesSize = new files size before zip
NewFilesZipRatio = ratio of new files being zipped
NumOfUpdatedFiles = number of updated files
TotalUpdatedFilesSize = updated files size
TotalUnzipUpdatedFilesSize = updated files size before zip
UpdatedFilesZipRatio = ratio of updated files being zipped
NumOfUpdatedPermissionFiles = number of updated permission files
TotalUpdatedPermissionFilesSize = updated permission files size
TotalUnzipUpdatedPermissionFilesSize = updated permission files size before zip
UpdatedPermissionFilesZipRatio = ratio of updated permission files being zipped
NumOfDeletedFiles = number of deleted files
TotalDeletedFilesSize = deleted files size
TotalUnzipDeletedFilesSize = deleted files size before zip
DeletedFilesZipRatio = ratio of deleted files being zipped
NumOfMovedFiles = number of moved files
TotalMovedFilesSize = move files size
TotalUnzipMovedFilesSize = moved files size before zip
MovedFilesZipRatio = ratio of moved files being zipped
SuccessDatabase = uploaded successfully database names
MissedDatabase = missed database names
SuccessVirtualMachine = uploaded successfully virtual machine names
MissedVirtualMachine = missed virtual machine names
SuccessPublicFolder = uploaded successfully public folder names
MissedPublicFolder = missed public folder names

Tag <Info>, <Warn>, <Error>
TimeStamp = time of this message
Message = message text
Tag <NewFile>, <UpdatedFile>, <UpdatedPermissionFile>, <DeletedFile>,<MovedFile>
Name = filename
FileSize = filesize
LastModified = last modified time of such file
UnzipFileSize = original file size before zipping
Ratio = ratio of the size being zipped

Example:
http://BACKUP_SERVER/obs/api/GetBackupJobReport.do?SysUser=system&SysPwd=system&LoginName=john&BackupSetID=1108378758790&BackupJobID=2007-01-08-16-02-07
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/GetBackupJobReport.do?SysUser=system&SysPwd=system&LoginName=john&BackupSetID=1108378758790&BackupJobID=2007-01-08-16-02-07&Host=obs.yourserver.com

25.18 Getting Backup Job Report Summary

The following table describes all information required to invoke the [Get Backup Job Report Summary] API to get a backup job status.

URL:		
http://BACKUP_SERVER/obs/api/GetBackupJobReportSummary.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
BackupSetID	String	A backup set ID
BackupJobID	String	A backup job ID
Cdp	Boolean	Continuous Data Protection { Y | N }
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		

If successful, returns
 	
<BackupJob ID="2007-01-08-16-02-07"
     StartTime="2007-01-08 16:02:07"
     EndTime="2007-01-08 16:02:12"
     BackupJobStatus="BS_STOP_SUCCESS"
     NumOfWarnEntries="0" NumOfErrorEntries="0"
     NumOfNewFiles="15" TotalNewFilesSize="790256"
     NumOfUpdatedFiles="0" TotalUpdatedFilesSize="0"
     NumOfDeletedFiles="0" TotalDeletedFilesSize="0"
     NumOfMovedFiles="0" TotalMovedFilesSize="0"
     NumOfUpdatedPermissionFiles="0"
     TotalUpdatedPermissionFilesSize="0" NumOfCopiedFiles="0"
     TotalCopiedSize="0"
     SuccessDatabase="Mailbox Database 2,Mailbox Database 3"
     MissedDatabase="" SuccessPublicFolder="" MissedPublicFolder="">
</BackupJob>
 	
If there is an error, returns <err>%ERROR_MESSAGE%</err>		

where under
Tag <BackupJob>
ID = backup job ID
StartTime = backup job start time
EndTime = backup job end time
JobStatus = status of backup job
NumOfErrorEntries = number of backup job errors
NumOfWarnEntries = number of backup job warnings
NumOfNewFiles = number of new files
TotalNewFilesSize = new files size
NumOfUpdatedFiles = number of updated files
TotalUpdatedFilesSize = updated files size
NumOfDeletedFiles = number of deleted files
TotalDeletedFilesSize = deleted files size
NumOfMovedFiles = number of moved files
TotalMovedFilesSize = move files size
NumOfUpdatedPermissionFiles = number of updated file permission files
TotalUpdatedPermissionFilesSize = updated file permission files size
NumOfCopiedFiles = number of copied files
TotalCopiedFilesSize = copied files size
SuccessDatabase = uploaded successfully database names
MissedDatabase = missed database names
SuccessVirtualMachine = uploaded successfully virtual machine names
MissedVirtualMachine = missed virtual machine names
SuccessPublicFolder = uploaded successfully public folder names
MissedPublicFolder = missed public folder names

Example:

http://BACKUP_SERVER/obs/api/GetBackupJobReportSummary.do?SysUser=system&SysPwd=system&LoginName=john&BackupSetID=1108378758790&BackupJobID=2007-01-08-16-02-07

Example for AhsayRDR:

http://REDIRECTOR_SERVER/rdr/api/GetBackupJobReportSummary.do?SysUser=system&SysPwd=system&LoginName=john&BackupSetID=1108378758790&BackupJobID=2007-01-08-16-02-07&Host=obs.yourserver.com

25.19 Listing Backup Files

The following table describes all information required to invoke the [List Backup Files] API to get all backup files by given a directory.

URL:		
http://BACKUP_SERVER/obs/api/ListBackupFiles.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
BackupSetID	String	A backup set ID
BackupJobID	String	A backup job ID
Path	String	A directory path
ListAll	String	(Optional) List all backup files from root directory {Y | N } Override the "Path" parameter if it is set to "Y"
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		

If successful, returns
 	
When ListAll="N" or if ListAll is omitted from the API
 	
\<Files>
\<File Type="DIR" Name="My Document Folder" />
\<File Type="FILE"
    Name="changeStatus.bat"
    OriginalFileSize="187" FileSize="1712"
    BackupByJob="2005-07-25-17-07-07"
    InBackupJob="Current"
    LastModified="1109233592750" />
\</Files>		

When ListAll="Y"

```
<Files>
<File Type="D" Name="" FullPath="G:\" OriginalFileSize="0"
FileSize="1536" BackupedByJob="2010-03-25-17-26-18"
InBackupJob="Current" LastModified="0"/>
<File Type="D" Name="Test-Data" FullPath="G:\Test-Data"
OriginalFileSize="0" FileSize="1536" BackupedByJob="2010-03-25-17-26-
18" InBackupJob="Current" LastModified="0"/>
<File Type="D" Name="DeltaFiles" FullPath="G:\Test-Data\DeltaFiles"
OriginalFileSize="0" FileSize="1536" BackupedByJob="2010-03-25-17-26-
18" InBackupJob="Current" LastModified="0"/>
<File Type="D" Name="InUse" FullPath="G:\Test-Data\DeltaFiles\InUse"
OriginalFileSize="0" FileSize="1536" BackupedByJob="2010-03-25-17-26-
18" InBackupJob="Current" LastModified="0"/>
<File Type="F" Name="delta.txt" FullPath="G:\Test-
Data\DeltaFiles\InUse\delta.txt" OriginalFileSize="25962046"
FileSize="201312" BackupedByJob="2010-03-25-17-26-18"
InBackupJob="Current" LastModified="1188617569315"/>
<File Type="F" Name="v1.txt" FullPath="G:\Test-Data\DeltaFiles\v1.txt"
OriginalFileSize="3708862" FileSize="31584" BackupedByJob="2010-03-
25-17-26-18" InBackupJob="Current" LastModified="1188611847813"/>
<File Type="F" Name="v10.txt" FullPath="G:\Test-
Data\DeltaFiles\v10.txt" OriginalFileSize="37088638" FileSize="286160"
BackupedByJob="2010-03-25-17-26-18" InBackupJob="Current"
LastModified="1188618121780"/>
<File Type="F" Name="v2.txt" FullPath="G:\Test-Data\DeltaFiles\v2.txt"
OriginalFileSize="7417726" FileSize="59872" BackupedByJob="2010-03-
25-17-26-18" InBackupJob="Current" LastModified="1188611989940"/>
<File Type="F" Name="v3.txt" FullPath="G:\Test-Data\DeltaFiles\v3.txt"
OriginalFileSize="11126590" FileSize="88160" BackupedByJob="2010-03-
25-17-26-18" InBackupJob="Current" LastModified="1188612049717"/>
<File Type="F" Name="v4.txt" FullPath="G:\Test-Data\DeltaFiles\v4.txt"
OriginalFileSize="14835454" FileSize="116432" BackupedByJob="2010-
03-25-17-26-18" InBackupJob="Current"
LastModified="1188612102929"/>
<File Type="F" Name="v5.txt" FullPath="G:\Test-Data\DeltaFiles\v5.txt"
OriginalFileSize="18544318" FileSize="144720" BackupedByJob="2010-
03-25-17-26-18" InBackupJob="Current"
LastModified="1188612176801"/>
<File Type="F" Name="v6.txt" FullPath="G:\Test-Data\DeltaFiles\v6.txt"
OriginalFileSize="22253182" FileSize="173024" BackupedByJob="2010-
03-25-17-26-18" InBackupJob="Current"
LastModified="1188617475605"/>
<File Type="F" Name="v7.txt" FullPath="G:\Test-Data\DeltaFiles\v7.txt"
OriginalFileSize="25962046" FileSize="201312" BackupedByJob="2010-
03-25-17-26-18" InBackupJob="Current"
LastModified="1188617569315"/>
<File Type="F" Name="v8.txt" FullPath="G:\Test-Data\DeltaFiles\v8.txt"
OriginalFileSize="29670910" FileSize="229584" BackupedByJob="2010-
03-25-17-26-18" InBackupJob="Current"
```

LastModified="1188617700799"/>
<File Type="F" Name="v9.txt" FullPath="G:\Test-Data\DeltaFiles\v9.txt"
OriginalFileSize="33379774" FileSize="257872" BackupedByJob="2010-03-25-17-26-18" InBackupJob="Current"
LastModified="1188617913849"/>
</Files>

If there is an error, returns <err>%ERROR_MESSAGE%</err>

where under
  Type = File or Directory { FILE | DIR }
  Name = name of the file
  OriginalFileSize = the original size of the uploaded file
  FileSize = the actual file size being uploaded
  BackupByJob = the date when the file was uploaded
  InBackupJob = The date when the file was last updated
  LastModified = The time of last modification

Example:
http://BACKUP_SERVER/obs/api/ListBackupFiles.do?SysUser=system&SysPwd=system&LoginName=john&BackupSetID=1108378758790&BackupJobID=2007-001-08-16-02-07&Path=C:\Documents%20and%20Settings\john.my.company.
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ListBackupFiles.do?SysUser=system&SysPwd=system&LoginName=john&BackupSetID=1108378758790&BackupJobID=2007-001-08-16-02-07&Path=C:\Documents%20and%20Settings\john.my.company.&Host=obs.yourserver.com

25.20 Getting User Storage Statistics

The following table describes all information required to invoke the [Getting User Storage Statistics] API to get a list of storage information for a user.

URL:		
http://BACKUP_SERVER/obs/api/GetUserStorageStat.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	The user's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
YearMonth	String	Year and month (yyyy-MM)
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		

If successful, returns

```
<Statistics YearMonth="2005-07"
   AvgDataSize="" AvgDataRawSize ="" AvgDataNo=""
   AvgRetainSize="" AvgRetainRawSize= "" AvgRetainNo=""
   AvgUploadSize="" AvgUploadRawSize="" AvgUploadNo=""
   AvgTotalStorageSize="" AvgTotalStorageRawSize=""
   AvgTotalStorageNo="" >
   <Storage Date="2005-07-25"
      DataSize="0" DataRawSize="0" DataNo="0"
      RetainSize="0" RetainRawSize="0" RetainNo="0"
      UploadSize="0" UploadRawSize="0" UploadNo="0"
      TotalStorageSize="0" TotalStorageRawSize="0" TotalStorageNo="0"
   />
   <Storage Date="2005-07-26"
      DataSize="0" DataRawSize="0"DataNo="0"
      RetainSize="0" RetainRawSize="0" RetainNo="0"
      UploadSize="0" UploadRawSize="0"UploadNo="0"
      TotalStorageSize="0" TotalStorageRawSize="0"TotalStorageNo="0"
   />
```

</Statistics> If there is an error, returns <err>%ERROR_MESSAGE%</err>	
where under Tag <Statistics > YearMonth = month of a year AvgDataSize = average size in data area AvgDataRawSize = average size in data area (in bytes) AvgDataNo = average number of files in data area AvgRetainSize = average size in retention area AvgRetainRawSize = average size in retention area (in bytes) AvgRetainNo = average number of files in retention area AvgUploadSize = average uploaded size AvgUploadRawSize = average uploaded size (in bytes) AvgUploadNo = average number of uploaded files AvgTotalStorageSize = average size in storage AvgTotalStorageRawSize = average size in storage (in bytes) AvgTotalStorageNo = average number of files in storage Tag <Storage> Date = the date of the statistics calculated DataSize = total data size uploaded DataRawSize = total data size uploaded (in bytes) DataNo = total data number RetainSize = total size in retention area RetainRawSize = total size in retention area (in bytes) RetainNo = total number in retention area UploadSize = total uploaded size UploadRawSize = total uploaded size (in bytes) UploadNo = total uploaded number TotalStorageSize = total size of storage TotalStorageRawSize = total size of storage (in bytes) TotalStorageNo = total storage number	

Example:

http://BACKUP_SERVER/obs/api/GetUserStorageStat.do?SysUser=system&SysPwd=system&LoginName=john&YearMonth=2005-07

Example for AhsayRDR:

http://REDIRECTOR_SERVER/rdr/api/GetUserStorageStat.do?SysUser=system&SysPwd=system&LoginName=john&YearMonth=2005-07&Host=obs.yourserver.com

25.21 Listing Users Storage

[List Users Storage] API invokes the [List Users] API with the same parameters to get a list of all users with profile and storage information available within AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/ListUsersStorage.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginNameOnly	String	Whether to display login names only
ClientTypeOnly	String	Whether to display client types and login names only.
Owner	String	Owner of backup users If parameter "Owner" is not used, all backup users will be listed. If parameter "Owner" is used but empty, all backup users created by admin role system user will be listed. If parameter "Owner" is used and valid, all backup users created by the specified system user (admin or sub admin) will be listed.
Host	String	AhsayOBS's URL
Return Value:		

If successful, returns
<Users>
  <User LoginName="abc" Alias="" UserType="PAID" ClientType="OBM"
  Quota="52428800" Timezone="GMT+08:00 (CST)" Language="en"
  DataFile="0" DataSize="0" RetainFile="0" RetainSize="0"
  EnableMSSQL="Y" EnableMSExchange="Y" EnableOracle="Y"
  EnableLotusNotes="Y" EnableLotusDomino="Y" EnableMySQL="Y"
  EnableInFileDelta="Y" EnableShadowCopy="Y"
  EnableExchangeMailbox="N" ExchangeMailboxQuota="0"
  EnableNASClient="Y" EnableDeltaMerge="Y" EnableMsVm="N"
  MsVmQuota="0" EnableVMware="N" VMwareQuota="0" Bandwidth="0"
  Notes="" Status="ENABLE" RegistrationDate="1290493669199"
  SuspendPaidUser="N" SuspendPaidUserDate="20101123"
  LastBackupDate="0" Owner="" EnableCDP="Y"
  EnableShadowProtectBareMetal="Y"

EnableWinServer2008BareMetal="Y"><Contact Name=""
Email="a@a.c"/>
</User>
<User LoginName="xyz" Alias="" UserType="TRIAL" ClientType="OBM"
Quota="52428800" Timezone="GMT+08:00 (CST)" Language="en"
DataFile="0" DataSize="0" RetainFile="0" RetainSize="0"
EnableMSSQL="Y" EnableMSExchange="Y" EnableOracle="Y"
EnableLotusNotes="Y" EnableLotusDomino="Y" EnableMySQL="Y"
EnableInFileDelta="Y" EnableShadowCopy="Y"
EnableExchangeMailbox="N" ExchangeMailboxQuota="0"
EnableNASClient="Y" EnableDeltaMerge="Y" EnableMsVm="N"
MsVmQuota="0" EnableVMware="N" VMwareQuota="0" Bandwidth="0"
Notes="" Status="ENABLE" RegistrationDate="1290494031805"
SuspendPaidUser="N" SuspendPaidUserDate="19700101"
LastBackupDate="0" Owner="" EnableCDP="Y"
EnableShadowProtectBareMetal="Y"
EnableWinServer2008BareMetal="Y"><Contact Name=""
Email="xyz@a.c"/>
</User>
…
…
</users>

If there is an error, returns <err>%ERROR_MESSAGE%</err>

Where
LoginName = login name
Alias = user's alias
UserType = user type { PAID | TRIAL }
ClientType = client type { OBM | ACB }
Quota = quota in bytes
Timezone = user's time zone
Language = user's language
DataFile = total number of files in the data area
DataSize = total amount of bytes in the data area
RetainFile = total number of files in the retention area
RetainSize = total amount of bytes in the retention area
EnableMSSQL = MS SQL enabled { Y | N }
EnableMSExchange = MS Exchange Server enabled { Y | N }
MsExchangeQuota= MS Exchange Server quota
EnableOracle = Oracle enabled { Y | N }
EnableLotusNotes = Lotus Notes enabled { Y | N }
EnableLotusDomino = Lotus Domino enabled { Y | N }
EnableMySQL = MySQL enabled { Y | N }
EnableInFileDelta = In-file Delta enabled { Y | N }
EnableShadowCopy = Shadow Copy enabled { Y | N }
EnableExchangeMailbox = MS Exchange Mailbox enabled { Y | N }
EnableNASClient = AhsayOBM JVM Royalty enabled { Y | N }
EnableDeltaMerge = Delta Merge enabled { Y | N }
ExchangeMailboxQuota = MS Exchange Mailbox quota
EnableMsVm= HyperV module enable { Y | N }

MsVmQuota= HyperV Guest VM quota
EnableVMware= VMware module enable { Y | N }
VMwareQuota= VMware Guest VM quota
Bandwidth = user's bandwidth
Notes = user's notes
Status = status of user account { ENABLE | SUSPENDED }
RegistrationDate = registation date of user account
SuspendPaidUser = Status of the Paid User { Y | N }
SuspendPaidUserDate = Date t o suspend Paid User [yyyy-MM-dd]
LastBackupDate = Date of last backup [Unix time format in millisecond]
Owner = user's owner
EnabledCDP = Continuous Data Protection (CDP) enabled { Y | N }
EnableShadowProtectBareMetal = ShadowProtectBareMetal enabled { Y | N }
EnableWinServer2008BareMetal = WinServer2008BareMetal enabled { Y | N }

Example:
http://BACKUP_SERVER/obs/api/ListUsersStorage.do?SysUser=system&SysPwd=system
http://BACKUP_SERVER/obs/api/ListUsersStorage.do?SysUser=system&SysPwd=system&Owner=testing

Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ListUsersStorage.do?SysUser=system&SysPwd=system&Host=obs.yourserver.com

25.22 Get License

The following table describes all information required to invoke the [List License] API to get version of AhsayOBS used and unused licenses available within AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/GetLicense.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <License ProductName="Offsite Backup Software, OEM Edition" ObsVersion="6.8.2.11" ExpiryDate="2012/12/31" SupportExpiryDate="2012/12/31" MaxQuota="Unlimited" LicenseeName="Ahsay-00001" LicenseKey="jkc52-W63wy-l9yc-vcVQC-+A" LicenseType="4"><OBM Quota="2000" Available="1999" Used="1" DAGUsedOBMUsers="0"/><ACB Quota="2000" Available="2000" Used="0" AcbUsedObmUsers="0"/><MSExchange Quota="2000" Available="1999" Used="1"/><MSExchangeMail Quota="2000" Available="2000" Used="0"/><MSSQL Quota="2000" Available="1999" Used="1"/><Oracle Quota="2000" Available="1999" Used="1"/><MySQL Quota="Unlimited" Available="Unlimited"/><LotusDomino Quota="2000" Available="1999" Used="1"/><LotusNotes Quota="2000" Available="1999" Used="1"/><InFileDelta Quota="2000" Available="1999" Used="1"/><VolumeShadowCopy Quota="2000" Available="1999" Used="1"/><DeltaMerge Quota="2000" Available="1999" Used="1"/><ClientJVMRoyalty Quota="10" Available="9" Used="1"/><MsVm Quota="2000" Available="2000" Used="0"/><VMWare Quota="2000" Available="2000" Used="0"/></License> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Where ProductName = product name of AhsayOBS ObsVersion = version of AhsayOBS ExpiryDate = expiry date of AhsayOBS SupportExpiryDate = support expiry date of AhsayOBS MaxQuota = maximum quota of AhsayOBS LicenseeName = License name of Ahsay LicenseKey = License key of Ahsay LicenseType = License type of Ahsay		

	Quota = quota Available = unused quota Used = used quota AcbUsedObmUsers = number of AhsayACB users which used the quota of AhsayOBM users DAGUsedObmUsers = number of additional AhsayOBM quota used by the Microsoft Exchange Server Database Availability Group OBM = AhsayOBM users ACB = AhsayACB users MSExchange = MS Exchange Server module MSExchangeMail = MS Exchange Mail level module MSSQL = MSSQL module OracleUsers = Oracle module MySQL = MySQL module LotusDomino = Lotus Domino module LotusNotes = Lotus Notes module InFileDelta = In-file delta module VolumeShadowCopy = Volume shadow copy module DeltaMerge = Delta Merge module ClientJVMRoyalty = AhsayOBM JVM Royalty module MsVm = Microsoft Windows Virtualization module VMWare VMware VM Backup module
Example:	
	http://BACKUP_SERVER/obs/api/GetLicense.do?SysUser=system&SysPwd=system
Example for AhsayRDR:	
	http://REDIRECTOR_SERVER/rdr/api/GetLicense.do?SysUser=system&SysPwd=system&Host=obs.yourserver.com

25.23 Get Replication Mode

The following table describes all information required to invoke the [List Replication Mode] API to get the mode of replication available within AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/GetReplicationMode.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <Replication Mode="DISABLED"/> Or <Replication Mode="UNSYNC" File="D:\Test-Data\obs52\user\kwong\files\1194504073875\Current\0x5f\0x3d\0xd2\0xc3\1103301195"/> Or <Replication Mode="SYNC" File="D:\Test-Data\obs52\user\kwong\files\1194504073875\Current\0x5f\0x3d\0xd2\0xc3\1103301195"/> Or <Replication Mode="LOGGING" File="D:\Test-Data\obs52\system\logfiles\log0001.alf"/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Where Mode = mode of replication as follow: 1. DISABLED = disabled replication 2. LOGGING = logging mode 3. UNSYNC = un-synchronization mode 4. SYNC = synchronization mode File = current replicating file		
Example:		
http://BACKUP_SERVER/obs/api/GetReplicationMode.do?SysUser=system&SysPwd=system		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/GetReplicationMode.do?SysUser=system&SysPwd=system&Host=obs.yourserver.com		

25.24 Send Forgot Password Email

The following table describes all information required to invoke the [Send Forgot Password Email] API to invoke the sending forgot password email operation in AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/SendForgotPwdEmail.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	Login name of the use
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		
If successful, returns <Reply><Success/></Reply> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/SendForgotPwdEmail.do?SysUser=system&SysPwd=system&LoginName=test		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/SendForgotPwdEmail.do?SysUser=system&SysPwd=system&LoginName=test&Host=obs.yourserver.com		

25.25 Delete Backup File

The following table describes all information required to invoke the [Delete Backup File] API to delete backup file in AhsayOBS by a given directory.

URL:		
http://BACKUP_SERVER/obs/api/DeleteBackupFile.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	Login name of the user
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
BackupSetName	String	A backup set Name
InBackupJob	String	A backup job ID (Date when the file was last updated).
Path	String	Full path of backup file
Type	String	{ T | F | I | D | C | CD | LC | LD } T – Directory F – Full Backup File (or simply a file) I – Incremental delta file D – Differential delta file C – Checksum file for the full file CD - Checksum file for the delta (both incremental and differential) file LC – Link of checksum file (same content but may contain different file permission or full path) LD – Link of backup data file (same content but may contain different file permission or full path)
BackupByJob	String	A backup Job ID (Date when the file was uploaded)
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		
If successful, returns <Reply><Success/></Reply>		

If there is an error, returns <err>%ERROR_MESSAGE%</err>
Example:
http://BACKUP_SERVER/obs/api/DeleteBackupFile.do?SysUser=system&SysPwd=system&LoginName=john&BackupSetName=BackupSet   -0&InBackupJob=Current&Path=&Type=D&BackupByJob=2007-01-08-16-02-07
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/DeleteBackupFile.do?SysUser=system&SysPwd=system&LoginName=john&BackupSetName=BackupSet   -0&InBackupJob=Current&Path=&Type=D&BackupByJob=2007-01-08-16-02-07&Host=obs.yourserver.com

25.26 Add Advertisement

The following table describes all information required to invoke the [Add Advertisement] API to add a new advertisement to AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/AddAdvertisement.do		
Available since version:		
v6.1.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
AdvertisementName	String	The Name of the new Advertisement
DisplayTime	String	The time in seconds to display, must be an even number between 2 and 60.
Target	String	The target URL
Text	String	The text message to be displayed.
TextAnimation	String	Text message animation { scroll-left | scroll-right | none }
TextAlign	String	Text message alignment { Left | Right | Center }
Tracking	Boolean	Whether to enable tracking or not. { Y | N }
AdGroupList	String	Advertisement group e.g. { ALL | NONE | <AdgroupID>}, accept multiple inputs each separated by a comma.
GifImage	String	The URL of an GIF image, destination file must have .GIF extension
SwfImage	String	The URL of an SWF image, destination file must have .SWF extension
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <Advertisement ID="1275547136700" Name="New" /> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
where ID = Advertisement ID Name = Advertisement name		
Example:		
http://BACKUP_SERVER/obs/api/AddAdvertisement.do?SysUser=system&SysPwd=system&AdvertisementName=New&DisplayTime=8&Target=abc.abc.com&Text=123456&TextAnimation=scroll-right&TextAlign=center&Tracking=Y&AdGroupList=1275362087428,12752		

97492353&GifImage=D:\Pic\test.GIF&SwfImage=D:\Pic\test.SWF
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/AddAdvertisement.do?SysUser=system&SysPwd=system&AdvertisementName=New&DisplayTime=8&Target=abc.abc.com&Text=123456&TextAnimation=scroll-right&TextAlign=center&Tracking=Y&AdGroupList=1275362087428,127529 7492353&GifImage=D:\Pic\test.GIF&SwfImage=D:\Pic\test.SWF&Host=obs.yourserver.com

25.27 List Advertisements

The following table describes all information required to invoke the [List Advertisements] API to get a list of all advertisements at AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/ListAdvertisements.do		
Available since version:		
v6.1.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
AdvertisementID	Number	The ID of an advertisement. If provided, only the specified Advertisement will be Listed.
AdvertisementNameOnly	Boolean	Whether to display names only or full advertisement details { Y | N }
Host	String	AhsayOBS's URL.
Return Value:		

If successful, returns
 	
\<Advertisements>
\<Advertisement
    ID="1275443024656"
    Name="Advert001"
    AdGroupList="1275362087428,1275297492353"
    StartDate="1275443024656"
    Text="This is a test"
    TextAnimation="scroll-left"
    TextAlign="left"
    Target="www.yahoo.com"
    Tracking="N"
    DisplayTime="16"
    Hits="0/0/0" />
\</Advertisements>
 	
If there is an error, returns \<err>%ERROR_MESSAGE%\</err>		

where ID = Advertisement ID Name = Advertisement name AdGroupList = The list of associated AdGroups StartDate= The starting date of this advertisement. Text = The text message to be displayed TextAnimation = Text message animation { scroll-left | scroll-right | none } TextAlign = Text message alignment { Left | Right | Center } Target = The target URL		

Tracking = Whether to enable tracking or not DisplayTime = The time in seconds to display Hits = The number of times your users clicked this advertisement. The values are { Hits within 1 day | Hits within the last 7 days | Hits within the last 30 days }
Example:
http://BACKUP_SERVER/obs/api/ListAdvertisements.do?SysUser=system&SysPwd=system&AdvertisementNameOnly=Y&AdvertisementID=1275443024656
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ListAdvertisements.do?SysUser=system&SysPwd=system&AdvertisementNameOnly=Y&AdvertisementID=1275443024656&Host=obs.yourserver.com

25.28 Modify Advertisement

The following table describes all information required to invoke the [Modify Advertisement] API to modify an advertisement at AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/ModifyAdvertisement.do		
Available since version:		
v6.1.0.0		
Parameters:		

	Key	Value	Descriptions
	SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
	SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
	AdvertisementID	Number	The Advertisement ID
	AdvertisementNameOnly	String	The name of the Advertisement
	DisplayTime	Number	The time in seconds to display, must be an even number between 2 and 60.
	Target	String	The target URL.
	Text	String	The text message to be displayed.
	TextAnimation	String	Text message animation { scroll-left | scroll-right | none }
	TextAlgin	String	Text message alignment { Left | Right | Center }
	Tracking	Boolean	Whether to enable tracking or not. { Y | N }
	AdGroupList	String	Advertisement group e.g. { ALL | NONE | <AdgroupID>}, accept multiple inputs each separated by a comma.
	ResetStats	Boolean	Whether to reset the hit counts of the advertisement. { Y | N }
	GifImage	String	The URL of a GIF image, destination file must have .GIF extension.
	SwfImage	String	The URL of a SWF image, destination file must have .SWF extension.
	Host	String	AhsayOBS's URL
Return Value:			

Return Value:
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>
Example:
http://BACKUP_SERVER/obs/api/ModifyAdvertisement.do?SysUser=system&SysPwd=system&AdvertisementID=1275443024656&AdvertisementName=Advert001&DisplayTime=16&Target=www.yahoo.com&Text=Testing&TextAnimation=scroll-left&TextAlign=left&Tracking=N&AdGroupList=ALL&ResetStats=Y&GifImage=D:\Pic\test.GIF&SwfImage=D:\Pic\test.SWF
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ModifyAdvertisement.do?SysUser=sy

stem&SysPwd=system&AdvertisementID=1275443024656&Advertisement
Name=Advert001&DisplayTime=16&Target=www.yahoo.com&Text=Testin
g&TextAnimation=scroll-
left&TextAlign=left&Tracking=N&AdGroupList=ALL&ResetStats=Y&GifImag
e=D:\Pic\test.GIF&SwfImage=D:\Pic\test.SWF&Host=obs.yourserver.com

25.29 Delete Advertisement

The following table describes all information required to invoke the [Delete Advertisement] API to delete an advertisement from AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/DeleteAdvertisement.do		
Available since version:		
v6.1.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
AdvertisementID	Number	The Advertisement ID
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/DeleteAdvertisement.do?SysUser=system&SysPwd=system&AdvertisementID=1275374722809		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/DeleteAdvertisement.do?SysUser=system&SysPwd=system&AdvertisementID=1275374722809&Host=obs.yourserver.com		

25.30 Add AdGroup

The following table describes all information required to invoke the [Add AdGroup] API to add a new AdGroup to AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/AddAdGroup.do		
Available since version:		
v6.1.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
AdGroupName	Number	The AdGroup's name
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/AddAdGroup.do?SysUser=system&SysPwd=system&AdGroupName=test		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/AddAdGroup.do?SysUser=system&SysPwd=system&AdGroupName=test&Host=obs.yourserver.com		

25.31 List AdGroups

The following table describes all information required to invoke the [List AdGroup] API to get a list of all AdGroups at AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/ListAdGroups.do		
Available since version:		
v6.1.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <AdGroups> <AdGroup ID="1" Name="Default" /> <AdGroup ID="1275297492353" Name="Test2" /> <AdGroup ID="1275297494619" Name="Test3" /> <AdGroup ID="1275297497275" Name="Test4" /> <AdGroup ID="1275362087428" Name="Test1" /> </AdGroups> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/ListAdGroups.do?SysUser=system&SysPwd=system		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/ListAdGroups.do?SysUser=system&SysPwd=system&Host=obs.yourserver.com		

25.32 Modify AdGroup

The following table describes all information required to invoke the [Modify AdGroup] API to modify an AdGroup at AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/ModifyAdGroup.do		
Available since version:		
v6.1.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
AdGroupID	Number	The AdGroup's ID
AdGroupName	String	The AdGroup's name
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/ModifyAdGroup.do?SysUser=system&SysPwd=system&AdGroupID=1275382280645&AdGroupName=TestingAdGroup2		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/ModifyAdGroup.do?SysUser=system&SysPwd=system&AdGroupID=1275382280645&AdGroupName=TestingAdGroup2&Host=obs.yourserver.com		

25.33 Delete AdGroup

The following table describes all information required to invoke the [Delete AdGroup] API to delete an AdGroup from AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/DeleteAdGroup.do		
Available since version:		
Pre-v6.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
AdGroupID	Number	The AdGroup's ID
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/DeleteAdGroup.do?SysUser=system&SysPwd=system&AdGroupID=1275382280645		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/DeleteAdGroup.do?SysUser=system&SysPwd=system&AdGroupID=1275382280645&Host=obs.yourserver.com		

25.34 Run Backup

The following table describes all information required to invoke the [Run backup set] API to initiate backup for a specific backup set.

URL:		
http://BACKUP_SERVER/obs/api/RunBackup.do		
Available since version:		
6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	User's login name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
BackupSetID	String	The backup set ID
BackupType	String	The backup type: {empty} when backup set type is "File/MySQL Database Server/Lotus Notes/System State/Microsoft Exchange Mail Level Backup/Microsoft Windows System Backup" { DATABASE | LOG } when backup set type is "Microsoft Exchange Server 2000/2003/2007 /Oracle Database Server/Lotus Domino" { DATABASE | DIFFERENTIAL | LOG } when backup set type is "Microsoft SQL Server" { COMPLETE | DIFFERENTIAL | INCREMENTAL } when backup set type is "ShadowProtect System Backup" { DATABASE | DIFFERENTIAL | LOG | COPY } when backup set type is "Microsoft

			Exchage Server 2010 / Microsoft Exhcnage Server Database Availability Group" { POWEROFF | SKIP } when backup set type is "VMware"
	CancelBackup	String	(Optional) Whether to cancel backup for the specific backup set.
	Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL

Return Value:
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>

Example:
http://BACKUP_SERVER/obs/api/RunBackup.do?SysUser=system&SysPwd=system&LoginName=2916_tester&BackupSetID=1280458302800&BackupType=COMPLETE&CancelBackup=N

Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/RunBackup.do?SysUser=system&SysPwd=system&LoginName=2916_tester&BackupSetID=1280458302800&BackupType=COMPLETE&CancelBackup=N&Host=obs.yourserver.com

25.35 Get Backup Job Progress

The following table describes all information required to invoke the [Get Backup Job Progress] API to retrieve the backup job progress.

URL:		
http://BACKUP_SERVER/obs/api/GetBackupJobProgress.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	User's login name
Owner	String	(Optional - Use with LoginName) Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
BackupSetID	String	The ID of the backup set
BackupJobID	String	The ID of the backup Job
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		
If successful, returns <BackupJob ID="2010-11-30-19-59-03" LoginName="John" StartTime="2010-11-30 19:59:05" EndTime="2010-11-30 19:59:17" BackupSetID="1289447020102" BackupSetName="testing" CurrentFilename="C:\Program Files\Kaspersky Lab\NetworkAgent\Products\E07A4C8CB7A5029D3AA8E87E542DB0D5\~privdata.~dat~2" FileUploadTime="2010-11-30 19:59:13" CurrentFileCount="26" TotalFileCount="26" UploadedFileSize="1241247" TotalFileSize="1241247"/> If the backup is still running, the value of EndTime should become "1970-01-01 08:00:00" If there is an error, it returns <err>%ERROR_MESSAGE%</err> where under Tag <BackupJob>		

ID = backup job ID
LoginName = user name
StartTime = job start time
EndTime = job end time
BackupSetID = backup set ID
BackupSetName = Backup set Name
CurrentFilename = Current uploading filename
CurrentFileCount = Number of uploaded files (including uploading file)
TotalFileCount = Number of total uploaded files
UploadedFileSize = Size of uploaded files
TotalFileSize = Size of total uploaded files
FileUploadTime= Start time of uploading file (yyyy-MM-dd HH:mm:ss)

Example:

http://BACKUP_SERVER/obs/api/GetBackupJobProgress.do?SysUser=system&SysPwd=system&LoginName=John&BackupSetID=1291008667235&BackupJobID=2010-11-30-10-39-01

Example for AhsayRDR:

http://REDIRECTOR_SERVER/rdr/api/GetBackupJobProgress.do?SysUser=system&SysPwd=system&LoginName=John&BackupSetID=1291008667235&BackupJobID=2010-11-30-10-39-01&Host=obs.yourserver.com

25.36 Add User Group

The following table describes all information required to invoke the [Add User Group] API to add a user group.

URL:		
http://BACKUP_SERVER/obs/api/AddUserGroup.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
UserGroupName	String	The name of the User Group (Currently, API only supports modifications related to backup user groups.)
LoginNameList	String	Users assign to the group e.g. [LoginName], accept multiple inputs, each separated by a comma, i.e. user1, user2, user3,..etc It is highly recommended to use URL encoding for long Login Names (e.g. User2#12345 -> User2%2312345)
UserIdList	String	Users assign to the group e.g. [LoginName], accept multiple inputs, each separated by a comma, i.e. user1, user2, user3,..etc It is highly recommended to use URL encoding for long Login Names (e.g. User2#12345 -> User2%2312345) Same as parameter "LoginNameList". If the parameter "UserIdList" is not used, the parameter "LoginNameList" will be used.
Host	String	AhsayOBS's URL
Return Value:		

If successful, returns:

<UserGroup ID="1275547136700" Name="User Group A" />

If there is an error, returns <err>%ERROR_MESSAGE%</err>:

i. User Group Name already exists on AhsayOBS

<err>[PolicyControlException.DuplicatedUserGroupNameException] User Group Name '%GROUP_NAME%' is used</err>

ii. User name does not exist on AhsayOBS or an incorrect user specified

<err>[UserCacheManager.NoSuchUserExpt] User '%USER_NAME%' not found.</err>

Example:
http://BACKUP_SERVER/obs/api/AddUserGroup.do?SysUser=system&SysPwd=system&UserGroupName=XYZ
http://BACKUP_SERVER/obs/api/AddUserGroup.do?SysUser=system&SysPwd=system&UserGroupName=ABC&LoginNameList=GroupUser1,GroupUser2%2312345
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/AddUserGroup.do?SysUser=system&SysPwd=system&UserGroupName=XYZ&Host=obs.yourserver.com

25.37 List User Groups

The following table describes all information required to invoke the [List User Groups] API to list all the available user groups on AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/ListUserGroups.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
UserGroupID	Number	(Optional) The ID of the User Group. If provided, only the specified User Group will be listed. (Currently, API only supports modifications related to backup user groups.)
UserId	String	(Optional) Filter listed User Group by specific backup user (Only effective if UserGroupID has not been specified). It is highly recommended to use URL encoding for user ID. (e.g. User2#12345 -> User2%2312345)
UserGroupOnly	Boolean	Whether to display User Group only or full User Group details. { Y | N }
Host	String	AhsayOBS's URL
Return Value:		

If successful, returns (UserGroupOnly = N)
 	
<UserGroups>
    <UserGroup ID="1275897475792" Name="User Group - 3"
     Type="backup-user" Owner="" >
        <Users>
            <User Name="GroupUser1" />
        </Users>
        <PolicyGroups>
            <PolicyGroup ID="1275897783056"
             Name="Policy Group - 2" />
        </PolicyGroups>
    </UserGroup>
</UserGroups>
…..
 	
If successful, returns (UserGroupOnly = Y) or if UserGroupOnly is not specified

```
<UserGroups>
     <UserGroup ID="1243569613625" Name="User Group - Read Only"
Type="backup-user" Owner="" />
     <UserGroup ID="1275895771498" Name="Testing Group"
Type="backup-user" Owner="" />
     <UserGroup ID="1275897475792" Name="User Group - 3"
Type="backup-user" Owner=""/ >
</UserGroups>

If there is an error, returns <err>%ERROR_MESSAGE%</err>
```

Example:
http://BACKUP_SERVER/obs/api/ListUserGroups.do?SysUser=system&SysPwd=system
http://BACKUP_SERVER/obs/api/ListUserGroups.do?SysUser=system&SysPwd=system&UserGroupOnly=Y&UserGroupID=1275443024656
http://BACKUP_SERVER/obs/api/ListUserGroups.do?SysUser=system&SysPwd=system&UserGroupOnly=N&UserId=test%2332333
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ListUserGroups.do?SysUser=system&SysPwd=system&Host=obs.yourserver.com

25.38 Modify User Group

The following table describes all information required to invoke the [Modify User Group] API to modify the user group.

URL:		
http://BACKUP_SERVER/obs/api/ModifyUserGroup.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	Value	Descriptions
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
UserGroupID	Number	The ID of the User Group. (Currently, API only supports modifications related to backup user groups.)
UserGroupName	String	(Optional) The name of the User Group
Mode	String	This defines whether the API will add or delete user from the User Group { A	D }. (Where A = add , D = delete)
LoginNameList	String	List of users that will be assigned to the User Group. [LoginName], accepts multiple inputs, each separated by a comma. Please note that LoginNameList is ONLY compatible with this API in ADD mode.It is highly recommended to use URL encoding for login names
UserIdList	String	List of users that will be assigned to the User Group. [LoginName], accepts multiple inputs, each separated by a comma. Please note that LoginNameList is ONLY compatible with this API in ADD mode.It is highly recommended to use URL encoding for login names Same as parameter "LoginNameList". If the parameter "UserIdList" is not used, the parameter "LoginNameList" will be used.
UserId	String	The user ID of a specific user that will be assigned / removed from the User Group depending on the value of Mode. It is highly recommended to use URL encoding for user ID
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		

Example:
http://BACKUP_SERVER/obs/api/ModifyUserGroup.do?SysUser=system&SysPwd=system&UserGroupID=1275895771498&UserGroupName=Testing_Group&LoginNameList=GroupUser2&UserId=GroupUser1&Mode=A
http://BACKUP_SERVER/obs/api/ModifyUserGroup.do?SysUser=system&SysPwd=system&UserGroupID=1275895771498&UserGroupName=TestingGroup&LoginNameList= Testuser1, Testuser2 &Mode=A
http://BACKUP_SERVER/obs/api/ModifyUserGroup.do?SysUser=system&SysPwd=system&UserGroupID=1275895771498&UserGroupName=TestingGroup&UserId=Testuser&Mode=A

Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ModifyUserGroup.do?SysUser=system&SysPwd=system&UserGroupID=1275895771498&UserGroupName=Testing_Group&LoginNameList=GroupUser2&UserId=GroupUser1&Mode=A&Host=obs.yourserver.com

25.39 Delete User Group

The following table describes all information required to invoke the [Delete User Group] API to delete a user group.

URL:		
http://BACKUP_SERVER/obs/api/DeleteUserGroup.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
UserGroupID	Number	The ID of the User Group. (Currently, API only supports modifications related to backup user groups.)
Host	Number	AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err> i. Incorrect UserGroupID specified *<err>[Error] Parameter UserGroupID, xxxxxxxxx does not existed!</err>* ii. The UserGroupID parameter was omitted from the API or the value of the UserGroupID is empty *<err>[Error] Parameter UserGroupID is null/empty!</err>*		
Example:		
http://BACKUP_SERVER/obs/api/DeleteUserGroup.do?SysUser=system&SysPwd=system&UserGroupID=1275895280730		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/DeleteUserGroup.do?SysUser=system&SysPwd=system&UserGroupID=1275895280730&Host=obs.yourserver.com		

25.40 List Policy Groups

The following table describes all information required to invoke the [List Policy Group] API to list user assigned policy groups.

URL:		
http://BACKUP_SERVER/obs/api/ListPolicyGroups.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	User's Login Name
Owner	String	Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
Type	String	User's type, e.g. [backup-user] (Currently, API only supports modifications related to backup user groups.)
PolicyGroupNameOnly	String	(Optional) Only policy ID and policy name will be listed. { Y | N }
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		

If successful, returns

```
<PolicyGroups>
    <PolicyGroup PolicyGroupID="1282186302196"
PolicyGroupName="Policy Group - 4634 -1">
        <SharedQuota Enabled="Y" SharedSize="0"
MaxPercentage="0"/>
            <DefaultBackupSets>
                <DefaultObmFileWindowsBackupSet ID="-1276842815367"
Name=" BackupSet- Windows - File "/>
                <DefaultObmFileMacBackupSet ID="-1282618475562"
Name="BackupSet- Mac - File"/>
                <DefaltObmFileLinuxBackupSet ID="-1282618461980"
Name="BackupSet- Linux - File"/>
                <DefaultObmMsSqlWindowsBackupSet ID="-
```

```
1282618486349" Name="BackupSet- MSSql - Windows"/>
            <DefaultObmMsExchangeWindowsBackupSet ID="-
1282618503663" Name="BackupSet- Windows - MsExchange"/>
            <DefaultObmOracleWindowsBackupSet ID="-
1282618537197" Name="BackupSet- Windows - Oracle"/>
            <DefaultObmOracleMacBackupSet ID="-1282618572791"
Name="BackupSet- Mac - Oracle "/>
            <DefaultObmOracleLinuxBackupSet ID="-1282618554292"
Name="BackupSet- Linux - Oracle "/>
            <DefaultObmMySqlWindowsBackupSet ID="-
1282618598504" Name="BackupSet- Windows - MySql "/>
            <DefaultObmMySqlMacBackupSet ID="-1282618634395"
Name="BackupSet- Mac - MySQL "/>
            <DefaultObmMySqlLinuxBackupSet ID="-1282618611321"
Name="BackupSet- Linux - MySQL"/>
            <DefaultObmDominoWindowsBackupSet ID="-
1282618650444" Name="BackupSet- Windows - Domino"/>
            <DefaultObmDominoLinuxBackupSet ID="-
1282618667804" Name="BackupSet- Linux - Domino"/>
            <DefaultObmNotesWindowsBackupSet ID="-
1282618683603" Name="BackupSet- Windows - Notes"/>
            <DefaultObmSystemStateWindowsBackupSet ID="-
1282618697264" Name="BackupSet- Windows - System State"/>
            <DefaultObmMsExchangeMailWindowsBackupSet ID="-
1282618717012" Name="BackupSet- Windows - MsExchange - Mail"/>
            <DefaultObmShadowProtectWindowsBackupSet ID="-
1282618736574" Name="BackupSet- Windows - Shadow Protect"/>
            <DefaultObmMsWindowsWindowsBackupSet ID="-
1282618760663" Name="BackupSet- Windows - Windows"/>
            <DefaultObmVMwareWindowsBackupSet ID="-
113307586662890" Name="BackupSet-VMware-Server2"/>
            <DefaultObmMSVirtualizationWindowsBackupSet ID="-
113307586685140" Name="BackupSet-MSVM-HyperV"/>
            <DefaultAcbWindowsBackupSet ID="-1278558712322"
Name="BackupSet-4748_acb"/>
            <DefaultAcbMacBackupSet ID="-1282618821970"
Name="BackupSet- Mac"/>
            <EnforcementObmFileWindowsBackupSet ID="-
1282618858299" Name="BackupSet-0"/>
            <EnforcementObmFileMacBackupSet ID="-1282618475562"
Name="BackupSet- Mac - File"/>
            <EnforcementObmFileLinuxBackupSet ID="-
1282618461980" Name="BackupSet- Linux - File"/>
            <EnforcementObmMsSqlWindowsBackupSet ID="-
1282618858300" Name="BackupSet- Windows - MSSql "/>
            <EnforcementObmMsExchangeWindowsBackupSet ID="-
1282618503663" Name="BackupSet- Windows - MsExchange"/>
            <EnforcementObmOracleWindowsBackupSet ID="-
1282618537197" Name="BackupSet- Windows - Oracle"/>
            <EnforcementObmOracleMacBackupSet ID="-
1282618572791" Name="BackupSet- Mac - Oracle"/>
```

```
            <EnforcementObmOracleLinuxBackupSet ID="-
1282618554292" Name="BackupSet- Linux - Oracle"/>
            <EnforcementObmMySqlWindowsBackupSet ID="-
1282618598504" Name="BackupSet- MySql - Windows"/>
            <EnforcementObmMySqlMacBackupSet ID="-
1282618634395" Name="BackupSet- Mac - MySQL"/>
            <EnforcementObmMySqlLinuxBackupSet ID="-
1282618611321" Name="BackupSet- Linux - MySQL"/>
            <EnforcementObmDominoWindowsBackupSet ID="-
1282618650444" Name="BackupSet- Windows - Domino"/>
            <EnforcementObmDominoLinuxBackupSet ID="-
1282618667804" Name="BackupSet- Linux - Domino"/>
            <EnforcementObmNotesWindowsBackupSet ID="-
1282618683603" Name="BackupSet- Windows - Notes"/>
            <EnforcementObmSystemStateWindowsBackupSet ID="-
1282618697264" Name="BackupSet- Windows - System State"/>
            <EnforcementObmMsExchangeMailWindowsBackupSet
ID="-1282618717012" Name="BackupSet- Windows - MsExchange -
Mail"/>
<EnforcementObmShadowProtectWindowsBackupSet ID="-
1282618736574" Name="BackupSet- Windows - Shadow Protect"/>
            <EnforcementObmMsWindowsBackupSet ID="-
1282618760663" Name="BackupSet- Windows - Windows"/>
            <EnforcementObmVMwareWindowsBackupSet ID="-
113075866662890" Name="BackupSet-VMware-Server2"/>
            <EnforcementObmMSVirtualizationindowsBackupSet ID="-
113075866662890" Name="BackupSet-VMware-Server2"/>
            <EnforcementAcbWindowsBackupSet ID="-
1278558712322" Name="BackupSet-4748_acb"/>
            <EnforcementAcbMacBackupSet ID="-1282618821970"
Name="BackupSet- Mac"/>
        </DefaultBackupSets>
        <PolicyControls>
    <PolicyControl ID="OBS-UUP-10001" Name="Manage User-User-User
Profile Menu" ShowRead="Y" ShowWrite="N" ShowExecute="N"
ShowDelete="N" EnableRead="N" EnableWrite="N" EnableExecute="N"
EnableDelete="N"/>
            <PolicyControl ID="OBS-UUP-10002" Name="Manage
User-User-User Profile-User Summary" ShowRead="Y" ShowWrite="N"
ShowExecute="N" ShowDelete="N" EnableRead="N" EnableWrite="N"
EnableExecute="N" EnableDelete="N"/>
            <PolicyControl ID="OBS-UUP-10003" Name="Manage
User-User-User Profile-Alias" ShowRead="Y" ShowWrite="Y"
ShowExecute="N" ShowDelete="N" EnableRead="N" EnableWrite="N"
EnableExecute="N" EnableDelete="N"/>
            <PolicyControl ID="OBS-UUP-10004" Name="Manage
User-User-User Profile-Language" ShowRead="Y" ShowWrite="Y"
ShowExecute="N" ShowDelete="N" EnableRead="N" EnableWrite="N"
EnableExecute="N" EnableDelete="N"/>
            <PolicyControl ID="OBS-UUP-10005" Name="Manage
User-User-User Profile-Timezone" ShowRead="Y" ShowWrite="Y"
```

```
ShowExecute="N" ShowDelete="N" EnableRead="N" EnableWrite="N"
EnableExecute="N" EnableDelete="N"/>
                <PolicyControl ID="OBS-UUP-10006" Name="Manage
User-User-User Profile-Contact" ShowRead="Y" ShowWrite="Y"
ShowExecute="N" ShowDelete="N" EnableRead="N" EnableWrite="N"
EnableExecute="N" EnableDelete="N"/>
                <PolicyControl ID="OBS-UUP-10007" Name="Manage
User-User-User Profile-Add-on Modules" ShowRead="Y" ShowWrite="N"
ShowExecute="N" ShowDelete="N" EnableRead="N" EnableWrite="N"
EnableExecute="N" EnableDelete="N"/>
                <PolicyControl ID="OBS-UUP-10008" Name="Manage User-
User-User Profile-Quota" ShowRead="Y" ShowWrite="N"
ShowExecute="N" ShowDelete="N" EnableRead="N" EnableWrite="N"
EnableExecute="N" EnableDelete="N"/>
                <PolicyControl ID="OBS-UUP-10009" Name="Manage User-
User-User Profile-Update Reset Button" ShowRead="Y" ShowWrite="Y"
ShowExecute="N" ShowDelete="N" EnableRead="N" EnableWrite="N"
EnableExecute="N" EnableDelete="N"/>
            </PolicyControls>
            <GlobalFilters>
                <ObmFileWindowsNormalFilter ID="" Name=""/>
                <ObmFileMacNormalFilter ID="" Name=""/>
                <ObmFileLinuxNormalFilter ID="" Name=""/>
                <ObmDominoWindowsNormalFilter ID="" Name=""/>
                <ObmDominoLinuxNormalFilter ID="" Name=""/>
                <ObmNotesWindowsNormalFilter ID="" Name=""/
                <ObmFileWindowsCdpFilter ID="" Name=""/>
                <ObmFileMacCdpFilter ID="" Name=""/>
                <ObmFileLinuxCdpFilter ID="" Name=""/>
    <AcbFileWindowsNormalFilter ID="-11282635326290" Name="Filter
Windows"/>
    <AcbFileMacNormalFiler ID="-41282635346189" Name="Filter Mac"/>
            </GlobalFilters>
            <FileSizeFilter EnableFileSizeFilter="Y" FileSizeLimit="100"/>
            <ExcludeNetworkShare EnableExcludeNetworkShare="Y"/>
        </PolicyGroup>
</PolicyGroups>

If there is an error, returns <err>%ERROR_MESSAGE%</err>

Where
    PolicyGroupID = policy group id
    PolicyGroupName = policy group name
Tag <Shared Quota>
        Enabled = share disk quota enabled { Y | N }
        SharedSize = disk quota shared size (Gigabytes)
        MaxPercentage = Maximum percentage of disk quota shared
Tag <Default Backup Sets>
        ID = default backup set ID
        Name = default backup set name
        DefaultObmFileWindowsBackupSet = OBM file default backup set for
```

windows
        DefaultObmFileMacBackupSet = OBM file default backup set for mac
        DefaltObmFileLinuxBackupSet = OBM file default backup set for
linux
        DefaultObmMsSqlWindowsBackupSet = OBM Microsft SQL server
default backup set for windows
        DefaultObmMsExchangeWindowsBackupSet = OBM Microsoft
exchange server default backup set for windows
        DefaultObmOracleWindowsBackupSet = OBM oracle default backup
set for windows
        DefaultObmOracleMacBackupSet = OBM Oracle database server
default backup set for mac
        DefaultObmOracleLinuxBackupSet = OBM Oracle database server
default backup set for linux
        DefaultObmMySqlWindowsBackupSet = OBM MySQL default backup
set for windows
        DefaultObmMySqlMacBackupSet = OBM MySQL default backup set
for mac
        DefaultObmMySqlLinuxBackupSet = OBM MySQL default backup set
for linux
        DefaultObmDominoWindowsBackupSet = OBM Lotus Domino
default backup set for windows
        DefaultObmDominoLinuxBackupSet = OBM Lotus Domino default
backup set for linux
        DefaultObmNotesWindowsBackupSet = OBM Lotus Notes default
backup set for windows
        DefaultObmSystemStateWindowsBackupSet = OBM System State
default backup set for windows
        DefaultObmMsExchangeMailWindowsBackupSet = OBM Microsoft
Exchange Mail default backup set for windows
        DefaultObmShadowProtectWindowsBackupSet = OBM Shadow
Protect System default backup set for windows
        DefaultObmMsWindowsWindowsBackupSet = OBM Microsoft
Windows System default backup set for windows
        DefaultObmVMwareWindowsBackupSet = OBM VMware VM Backup
default backup set for windows
        DefaultObmMSVirtualizationWindowsBackupSet = OBM Microsoft
Windows Virtualization default backup set for windows
        DefaultAcbWindowsBackupSet = ACB File default backup set for
windows
        DefaultAcbMacBackupSet = ACB File default backup set for mac
        EnforcementObmFileWindowsBackupSet = OBM File default backup
set for windows
        EnforcementObmFileMacBackupSet = OBM File enforcement backup
set for mac
        EnforcementObmFileLinuxBackupSet = OBM File enforcement
backup set for linux
        EnforcementObmMsSqlWindowsBackupSet = OBM Microsoft SQL
enforcement backup set for windows
        EnforcementObmMsExchangeWindowsBackupSet = OBM Microsoft
Exchange enforcement backup set for windows

EnforcementObmOracleWindowsBackupSet = OBM Oracle enforcement backup set for windows

EnforcementObmOracleMacBackupSet = OBM Oracle enforcement backup set for mac

EnforcementObmOracleLinuxBackupSet = OBM Oracle enforcement backup set for linux

EnforcementObmDominoWindowsBackupSet = OBM Lotus Domino enforcement backup set for windows

EnforcementObmDominoLinuxBackupSet = OBM Lotus Domino enforcement backup set for linux

EnforcementObmNotesWindowsBackupSet = OBM Lotus Notes enforcement backup set for windows

EnforcementObmSystemStateWindowsBackupSet = OBM System State enforcement backup set for windows

EnforcementObmMsExchangeMailWindowsBackupSet = OBM Microsoft Exchange Mail enforcement backup set for windows

EnforcementObmShadowProtectWindowsBackupSet = OBM Shadow Protect enforcement backup set for windows

EnforcementObmMsWindowsBackupSet = OBM Microsoft Windows enforcement backup set for windows

EnforcementObmVMwareWindowsBackupSet = OBM VMware VM Backup enforcement backup set for windows

EnforcementObmMSVirtualizationWindowsBackupSet = OBM Microsoft Windows Virtualization enforcement backup set for windows

EnforcementAcbWindowsBackupSet = ACB File enforcement backup set for windows

EnforcementAcbMacBackupSet = ACB File enforcement backup set for linux

Tag <Policy Controls>

ID = policy control ID
Name = policy control name
ShowRead = show read permission
ShowWrite = show write permission
ShowExecute = show execute permission
ShowDelete = show delete permission
EnableRead = enable read permission
EnableWrite = show write permission
EnableExecute = show execute permission

Tag <Global Filters>

ID = global filter ID
Name = global filter name
ObmFileWindowsNormalFilter = OBM File normal filter for windows
ObmFileMacNormalFilter = OBM File normal filter for mac
ObmFileLinuxNormalFilter = OBM File normal filter for linux
ObmDominoWindowsNormalFilter = OBM Domino normal filter for windows

ObmDominoLinuxNormalFilter = OBM Lotus Domino normal filter for linux

ObmNotesWindowsNormalFilter = OBM Lotus Notes normal filter for windows

ObmFileWindowsCdpFilter = OBM File cdp filter for windows

ObmFileMacCdpFilter = OBM File cdp filter for mac
ObmFileLinuxCdpFilter = OBM File cdp filter for linux
AcbFileWindowsNormalFilter = ACB normal filter for windows
AcbFileMacNormalFiler = ACB normal filter for mac
TAG <FilterSizeFilter>
EnableFileSizeFilter = file size restriction enabled {Y|N}
FileSizeLimit = file size threshold setting in megabytes
TAG <ExcludeNetworkShare>
EnableExcludeNetworkShare = exclude network share enabled
{Y|N}

Example:
http://BACKUP_SERVER/obs/api/ListPolicyGroups.do?SysUser=system&SysPwd=system&LoginName=4632_tester&Type=backup-user&PolicyGroupNameOnly=N
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ListPolicyGroups.do?SysUser=system&SysPwd=system&LoginName=4632_tester&Type=backup-user&PolicyGroupNameOnly=N&Host=obs.yourserver.com

25.41 Add User Groups to Policy Group

The following table describes all information required to invoke the [Add user groups to policy group] within AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/AddUserGroupsToPolicyGroup.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
PolicyGroupID	String	The policy group ID
UserGroupIDList	String	The user group ID, separated by "," (Currently, API only supports modifications related to backup user groups.)
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/AddUserGroupsToPolicyGroup.do?SysUser=system&SysPwd=system&PolicyGroupID=1280458302800&UserGroupIDList=1280458287815,1282186204737		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/AddUserGroupsToPolicyGroup.do?SysUser=system&SysPwd=system&PolicyGroupID=1280458302800&UserGroupIDList=1280458287815,1282186204737&Host=obs.yourserver.com		

25.42 Delete User Group from Policy Group

The following table describes all information required to invoke the [Remove user group from policy group] API to remove user groups from policy group within AhsayOBS.

URL:		
http://BACKUP_SERVER/obs/api/DeleteUserGroupFromPolicyGroup.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
PolicyGroupID	String	The policy group ID
UserGroupID	String	The user group ID
Host	String	AhsayOBS's URL
Return Value:		
If successful, returns <OK/> If there is an error, returns <err>%ERROR_MESSAGE%</err>		
Example:		
http://BACKUP_SERVER/obs/api/DeleteUserGroupFromPolicyGroup.do?SysUser=system&SysPwd=system&PolicyGroupID=1280458302800&UserGroupID=1280458287815		
Example for AhsayRDR:		
http://REDIRECTOR_SERVER/rdr/api/DeleteUserGroupFromPolicyGroup.do?SysUser=system&SysPwd=system&PolicyGroupID=1280458302800&UserGroupID=1280458287815&Host=obs.yourserver.com		

25.43 List Backup Job Mode

The following table describes all information required to invoke the [Listing Backup Job Mode] API to get a list of all backup jobs for all backup sets or a backup set.

URL:		
http://BACKUP_SERVER/obs/api/ListBackupJobMode.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
LoginName	String	(Optional) The user's login name. If specified, only the backup jobs of the user is displayed otherwise all backup jobs are displayed.
Owner	String	(Optional - Use with LoginName) Owner of backup user If parameter "Owner" is not used or empty, the backup user is created by system admin. If parameter "Owner" is used and valid, the backup user is created by the specified sub-admin.
BackupDate	String	A date in yyyy-MM-dd format
BackupSetID	String	(Optional – Use with LoginName) The ID of the backup set to listing backup job mode
Host	String	(Optional: Use with AhsayRDR Only) AhsayOBS's URL
Return Value:		
If successful, returns <BackupJobs BackupDate="2010-11-30" > <BackupJob ID="2010-11-30-16-39-21" LoginName="John" StartTime="2010-11-30 16:39:22" EndTime="2010-11-30 16:39:47" BackupSetID="1291008667235" BackupSetName="1-4991" BackupJobMode="M"/> <BackupJob ID="2010-11-30-16-46-42" LoginName="John" StartTime="2010-11-30 16:46:43" EndTime="2010-11-30 16:47:02" BackupSetID="1291008667235" BackupSetName="1-4991" BackupJobMode="M"/> <BackupJob ID="2010-11-30-16-54-07" LoginName="John"		

StartTime="2010-11-30 16:54:07" EndTime="2010-11-30 16:58:55"
BackupSetID="1291008667235" BackupSetName="1-4991"
BackupJobMode="M"/>
<BackupJob ID="2010-11-30-17-00-29" LoginName="John"
StartTime="2010-11-30 17:00:30" EndTime="2010-11-30 17:02:59"
BackupSetID="1291008667235" BackupSetName="1-4991"
BackupJobMode="M"/>
</BackupJobs>

If there is an error, it returns <err>%ERROR_MESSAGE%</err>

where under
Tag <BackupJobs>
  BackupDate = date of backup
Tag <BackupJob>
 ID = backup job ID
 LoginName = user name
 StartTime = job start time
 EndTime = job end time
 BackupSetID = backup set ID
 BackupSetName = Backup set Name
 BackupJobMode = the status of the backup job as follow:
  1. M = Manual backup
  2. S = Schedule backup
  3. R = Remote backup
  4. C = CDP backup

Example:

http://BACKUP_SERVER/obs/api/ListBackupJobMode.do?SysUser=system&SysPwd=system&LoginName=John&BackupDate=2010-11-30

Example for AhsayRDR:

http://REDIRECTOR_SERVER/rdr/api/ListBackupJobMode.do?SysUser=system&SysPwd=system&LoginName=John&BackupDate=2010-11-30&Host=obs.yourserver.com

25.44 List System Users

The following table describes all information required to invoke the [List System Users] API to get all system users.

URL:		
http://BACKUP_SERVER/obs/api/ListSystemUsers.do		
Available since version:		
v6.3.0.0		
Parameters:		
Key	**Value**	**Descriptions**
SysUser	String	AhsayOBS's system users with admin role (modified since 6.11.0.0)
SysPwd	String	AhsayOBS's system users password with admin role (modified since 6.11.0.0)
RoleOnly	String	List the role of system users only {Y | N } (Optional)
Host	String	AhsayOBS's URL
Return Value:		

If RoleOnly=Y, returns
<SystemUsers>
<User Name="sa1" Role="reseller"/>
<User Name="sa2" Role="reseller"/>
…
</SystemUsers>

If RoleOnly=N or the parameter, RoleOnly, does not exists, returns
<SystemUsers>
<User Name="sa1" Password="4QrcOUm6Wau+VuBX8g+IPg==" Role="reseller" HashedPwd="4QrcOUm6Wau+VuBX8g+IPg==" ContactName="sa1" ContactEmail="sa1@a.c" HostName="sa1.a.c" Uid="41435" EnableSmtpSetting="N">
<InterfaceCustomization Enable="N"/>
<SubUser Name="sa2"/>
</User>
<User Name="sa2" Password="4QrcOUm6Wau+VuBX8g+IPg==" Role="reseller" HashedPwd="4QrcOUm6Wau+VuBX8g+IPg==" ContactName="sa2" ContactEmail="sa2@a.c" HostName="sa2.a.c" Uid="32441" EnableSmtpSetting="Y">
<SmtpServer HostName="sa2.a.c" LoginName="sa2.a.c" Password="sa2.a.c"/>
<ReportSender Name="obm.sa2.a.c" Email="obm.sa2@a.c" OBM="Y" ACB="N"/>
<ReportSender Name="acb.sa2.a.c" Email="acb.sa2@a.c" OBM="N" ACB="Y"/>
<InterfaceCustomization Enable="N"/>
</User>
</SystemUsers>
If there is an error, returns <err>%ERROR_MESSAGE%</err>

where under
  Tag \<User\>
    Name = login name of system user
    Password = password of system user
    Role = role of system user
    HashedPwd = password of system user is hashed or not
    ContactName = contact name of system user
    ContactEmail = contact email of system user
    HostName = host name of system user
    Uid = uid of system user
    EnableSmtpSetting = enable or disable the SMTP setting of system
user
  Tag \<SmtpServer\>
    HostName = host name of SMTP server
    LoginName = login name of SMTP server
    Password = password of SMTP server
  Tag \<ReportSender\>
    Name = name of report sender
    Email = email of report sender
    OBM = OBM user of report sender
    ACB = ACB user of report sender
  Tag \<InterfaceCustomization\>
    Enable = enable or disable the interface customization of system user
  Tag \<SubUser\>
Name = login name of sub-level system user

Example:
http://BACKUP_SERVER/obs/api/ListSystemUsers.do?SysUser=system&SysPwd=system
Example for AhsayRDR:
http://REDIRECTOR_SERVER/rdr/api/ListSystemUsers.do?SysUser=system&SysPwd=system&Host=obs.yourserver.com

25.45 Additional APIs

If you need additional APIs to automate your business workflow, please feel free to let us know.

26 Further Information

If you have any question or suggestion about this document, please send an email to our support team via our [forum](#).

Appendix

Appendix A Supported Language Code

Language Code	Language
bg	Bulgarian
ca	Catalan
cs	Czech
da	Danish
de	German
el	Greek
en	English
el	Spanish
eu	Basque
fi	Finnish
fr	French
hu	Hungarian
is	Icelandic
it	Italian
iw	Hebrew
ja	Japanese
ko	Korean
lt	Lithuanian
nl	Dutch
no	Norwegian
po	Polish
pt_BR	Portuguese (Brazil)
pt_PT	Portuguese (Portugal)
ro	Romanian
ru	Russian
sl	Slovenian
sv	Swedish
th_th	Thai (Thai Digit)
tr	Turkish
zh_CN	Chinese (Simplified)
zh_TW	Chinese (Traditional)

Appendix B Supported Time zone

Timezone String	Timezone Name
GMT-11:00 (WST)	Western Standard Time
GMT-11:00 (NUT)	Niue Time
GMT-11:00 (SST)	Samoa Standard Time
GMT-10:00 (HADT)	Hawaii-Aleutian Daylight Time
GMT-10:00 (HST)	Hawaiian Standard Time
GMT-10:00 (TKT)	Tokelau Time
GMT-10:00 (HST)	Hawaiian Standard Time
GMT-10:00 (CKT)	Cook Islands Time
GMT-10:00 (THAT)	Tahiti Time
GMT-09:00 (AKST)	Alaska Standard Time
GMT-09:00 (GAMT)	Gambier Time
GMT-08:00 (PST)	Pacific Standard Time (North America)
GMT-07:00 (PDT)	Pacific Daylight Time (North America)
GMT-07:00 (MST)	Mountain Standard Time
GMT-07:00 (MDT)	Mountain Day Time
GMT-06:00 (CST)	Central Standard Time
GMT-06:00 (CDT)	Central Daylight Time
GMT-06:00 (EAST)	Easter Island Time
GMT-06:00 (GALT)	Galapagos Time
GMT-05:00 (EST)	Eastern Standard Time (North America)
GMT-05:00 (EDT)	Eastern Daylight Time (North America)
GMT-05:00 (COT)	Colombia Time
GMT-05:00 (ECT)	Ecuador Time
GMT-05:00 (CDT)	Central Daylight Time (North America)
GMT-05:00 (PET)	Peru Time
GMT-05:00 (ACT)	Atlantic/Proto Acre
GMT-05:00 (GMT-05:00)	GMT -05:00
GMT-04:00 (AST)	Atlantic Standard Time
GMT-04:00 (PYT)	Paraguay Time
GMT-04:00 (VET)	Venezuela Time
GMT-04:00 (GYT)	Guyana Time
GMT-04:00 (ADT)	Acre Daylight Time
GMT-04:00 (BOT)	Bolivia Time
GMT-04:00 (AMT)	Armenia Time
GMT-04:00 (CLT)	Chile Time
GMT-04:00 (FKT)	Falkland Islands
GMT-03:00 (ART)	Argentina Time
GMT-03:00 (GFT)	French Guiana Time
GMT-03:00 (BRT)	Brasilia Time
GMT-03:00 (WGST)	West Greenland Summer Time
GMT-03:00 (PMDT)	Pierre & Miquelon Daylight Time
GMT-03:00 (UYT)	Uruguay Time
GMT-03:00 (SRT)	Suriname Time
GMT-02:00 (FNT)	Fernando de Noronha Time
GMT-02:00 (GST)	Gulf Standard Time
GMT-01:00 (EGST)	East Greenland Summer Time

GMT+00:00 (GMT)	Greenwich Mean Time
GMT+00:00 (WET)	Western European Time
GMT+00:00 (WEST)	Western European Summer Time
GMT+00:00 (IST)	Israel Standard Time
GMT+00:00 (BST)	Brazil Standard Time
GMT+00:00 (UTC)	Coordinate Universal Time
GMT+01:00 (CET)	Central European Time
GMT+01:00 (WAT)	West Africa Time
GMT+01:00 (CEST)	Central European Summer Time
GMT+02:00 (EEST)	Eastern European Summer Time
GMT+02:00 (CAT)	Central Africa Time
GMT+02:00 (SAST)	Soft Africa Standard Time
GMT+02:00 (EET)	Eastern European Time
GMT+02:00 (IDT)	Israel Daylight Time
GMT+03:00 (EAT)	East Africa Time
GMT+03:00 (AST)	Acre Standard Time
GMT+03:00 (ADT)	Acre Daylight Time
GMT+03:00 (MSD)	Moscow Daylight Time
GMT+04:00 (AQTST)	Aqtau Time
GMT+04:00 (AZST)	Azerbaijan Summer Time
GMT+04:00 (GST)	Gulf Standard Time
GMT+04:00 (GEST)	Georgia Time
GMT+04:00 (AMST)	Armenia Summer Time
GMT+04:00 (SAMST)	Samara Time
GMT+04:00 (SCT)	Seychelles Time
GMT+04:00 (MUT)	Mauritius Time
GMT+04:00 (RET)	Reunion Time
GMT+05:00 (TMT)	Turkmenistan Time
GMT+05:00 (KGST)	Kirgizstan Time
GMT+05:00 (TJT)	Tajikistan Time
GMT+05:00 (PKT)	Pakistan Time
GMT+05:00 (UZT)	Uzbekistan Time
GMT+05:00 (YEKST)	Yekaterinburg Time
GMT+05:00 (IDT)	Indian Standard Time
GMT+05:00 (TFT)	French Southern & Antarctic Lands Time
GMT+05:00 (MVT)	Maldives Time
GMT+06:00 (MAWT)	Mawson Time
GMT+06:00 (LKT)	Lanka Time
GMT+06:00 (BDT)	Bangladesh Time
GMT+06:00 (NOVST)	Novosibirsk Time
GMT+06:00 (BTT)	Bhutan Time
GMT+07:00 (ICT)	Indochina Time
GMT+07:00 (JAVT)	Java Time, Indonesia Time
GMT+07:00 (KRAST)	Krasnoyarsk Time
GMT+07:00 (CXT)	Christmas Island Time
GMT+08:00 (HKT)	Hong Kong Time
GMT+08:00 (CST)	Cuba Standard Time
GMT+08:00 (BNST)	Brunei Time
GMT+08:00 (WST)	West Samoa Time

GMT+08:00 (IRKST)	Irkutsk Time
GMT+08:00 (MYT)	Malaysia Time
GMT+08:00 (PHT)	Philippine Time
GMT+08:00 (SGT)	Singapore Time
GMT+08:00 (BORT)	Borneo Time
GMT+08:00 (ULAT)	Ulan Bator Time
GMT+08:00 (JAYT)	Jayapura Time
GMT+09:00 (KST)	Korean Standard Time
GMT+09:00 (JST)	Japan Standard Time
GMT+09:00 (YAKST)	Yakutsk Time
GMT+09:00 (PWT)	Palau Time
GMT+10:00 (EST)	Eastern Standard Time (Australia)
GMT+10:00 (DDUT)	Dumont-d'Urville Time
GMT+10:00 (VLAST)	Vladivostok Time
GMT+10:00 (ChST)	Chamorro Standard Time
GMT+10:00 (PGT)	Papua New Guinea Time
GMT+10:00 (TRUST)	Truk Time
GMT+11:00 (MAGST)	Magadan Time
GMT+11:00 (VUT)	Vanuatu Time
GMT+11:00 (KOSST)	Kosrae Time
GMT+11:00 (NCT)	New Caledonia Time
GMT+11:00 (PONT)	Ponape Time (Micronesia)
GMT+12:00 (NZST)	New Zealand Standard Time
GMT+12:00 (ANAST)	Anadyr Time
GMT+12:00 (PETST)	Petropavlovsk-Kamchatski Time
GMT+12:00 (FJT)	Fiji Time
GMT+12:00 (TVT)	Tuvalu Time
GMT+12:00 (MHT)	Marshall Islands Time
GMT+12:00 (NRT)	Nauru Time
GMT+12:00 (GILT)	Gilbert Island Time
GMT+12:00 (WAKT)	Wake Time
GMT+12:00 (WFT)	Wallis and Futuna Time

Appendix C Product Documentations

Please visit this link for the documentations of Ahsay Products.

Appendix D Error Code 1011 and 1012

<u>Internal Error 1011</u>

This error could occur when one of the following conditions is true:

1. The license key has been used on more than one machine.

2. Change of network card of the server machine or moving the AhsayBS system to a new server.

Solution:

In the cases where the license key was used on a second server for testing purposes, please use an evaluation key instead.

Alternatively, please shutdown the AhsayOBS service on the second server, and then contact our Support Engineer with your "License Name" and "License Key", and we shall update the license server to allow your key to be used again.

In the cases where the network card of the server machine is changed, or an AhsayOBS relocation has been performed. Please also contact our Support Engineer with your "License Name" and "License Key", and we shall update the license server to allow your key to be used again.

If the problem still persists, please ensure that there are no connectivity issues from the AhsayOBS server to the internet and that you can connect to lic.ahsay.com with HTTPS from the AhsayOBS backup server. There is a connection test button underneath the license field entry box to test the connection to our license server. The testing result will be displayed next to the test button.

Please also verify if the machine in concern contain any software that would create virtual MAC address, for example, VPN software. If yes, please disable them such software, and notify us again.

Internal Error 1012

Internal Error 1012 can occurs when one of the following conditions is true:

1.   The license key has been used on more than one machine.

2.   Change of the MAC address, local / remote IP address, or local port that AhsayOBS is installed on.

Solution:

Persistent 1012 license errors can occur if your AhsayOBS server is operating in a network environment where network traffic is routed to the internet via multiple external IP addresses. For example, network load balancing is implemented using, i.e. a dual WAN router, Round Robin routing, or network card with multiple external IP.

For these cases, we would suggest setting up a static route for the server's connection to lic.ahsay.com, so that the remote IP address on the server will remain the same every time a connection to lic.ahsay.com is established.

Appendix E How can I rebuild an AhsayOBS server from scratch

To rebuild an AhsayOBS server from backup, please perform the following procedure:

1. Restore the program directory (the default location is shown below) to the new machine.

    a. Windows – "C:\Program Files\Ahsay Offsite Backup Server"

    b. Linux/FreeBSD/Solaris – "/usr/local/obs"

2. Restore the [System Home] directory (back to its original directory if possible)

3. Restore all [User Homes] directories (back to their original directories if possible)

4. If you have restored the [System Home] directory or any of the [User Homes] directories to another directory (instead of the original directory), please modify the <system-home> and/or <user-home> parameters within the [obs.xml] file to reflect the new locations.

    a. Windows – "C:\Program Files\Ahsay Offsite Backup Server\conf\obs.xml"

    b. Linux/FreeBSD/Solaris – "/usr/local/obs/config/obs.xml"

5. (for Windows) Run [C:\Program Files\Ahsay Offsite Backup Server\bin\Install-Service.bat] to install AhsayOBS as Windows service.

6. Startup the AhsayOBS service.

Appendix F How to start up AhsayRPS as AhsayOBS

This chapter describes the information on how you can start up AhsayRPS as AhsayOBS.

<u>Scenario</u>

- You want to start AhsayOBS by using the replication data and using the same AhsayOBS & AhsayRPS service on the replication server side.
- *AhsayOBS & AhsayRPS is installed in C:\Program Files\AhsayOBS and AhsayRPS* on the backup server side.
- AhsayOBS & AhsayRPS is installed in C:*Program Files\AhsayOBS and AhsayRPS* on the replication server side.
- The RECEIVER_HOME of the receiver of AhsayOBS configured on AhsayRPS is *D:\RepHome*.
- The USER_HOMES of AhsayOBS are *E:\Users* and *F:\Users* on AhsayOBS.
- The SYSTEM_HOME of AhsayOBS is *E:\System* on AhsayOBS.
- The POLICY_HOME of AhsayOBS is *E:\Policy* on AhsayOBS.

To startup the replication server as a backup server, please follow the steps below:

1. Shutdown the AhsayOBS & AhsayRPS service on the replication server side.

2. Copy the CONF folder, i.e. copy the *D:\RepHome\files\C%3A\Program Files\AhsayOBS and AhsayRPS\conf* to *C:\Program Files\AhsayOBS and AhsayRPS\conf*, exclude rps.xml, rpsRecv.xml, rpsLicense.xml and server.xml.

3. Copy the WEBAPPS folder, i.e. copy *D:\RepHome\files\C%3A\Program Files\AhsayOBS and AhsayRPS\webapps\obs* to *C:\Program Files\AhsayOBS and AhsayRPS\webapps\obs*.

4. Copy the USER_HOMES, i.e. copy *D:\RepHome\files\E%3A\Users* to *E:\Users*, *D:\RepHome\files\F%3A\Users* to *F:\Users* and *D:\RepHome\files\E%3A\System* to *E:\System*.

   If the partitions for E:\ or F:\ are not available, you can copy these directories to any location you want. However, you must remember to open *C:\Program Files\AhsayOBS and AhsayRPS\conf\obs.xml* and modify the entries for "user-home" and "system-home" with the correct paths.

5. Copy the POLICY_HOME, i.e. copy *D:\RepHome\files\E%3A\Policy* to *E:\Policy*.

6. Startup AhsayOBS & AhsayRPS service on the replication server. This service is running both AhsayOBS service from the original backup server and the AhsayRPS service now.

Please take a look at *%OBSR_HOME%\logs\obs*.log* and *%OBSR_HOME%\logs\cat*.log* if you run into any problem.

WARNING:

Do not copy the license.xml, rps.xml, rpsRecv.xml, or rpsSend.xml file over to the new AhsayOBS instance.

Appendix G Applying SSL certificate(pfx) to the Java keystore with OpenSSL

In case the Java keytool commands listed in the SSL section cannot import your pfx into the Java keystore. You may need to try OpenSSL commands to convert your exiting certificate into a suitable format before you can import the SSL certificate into the Java keystore. Since the format of the certificate issued by CA may be different, please always check with your CA with the correct instruction, or you can try with the examples below.

Requirements

You need to compile/install OpenSSL first, please refer to the following link for reference.

OpenSSL tarballs (Linux base)
https://www.openssl.org/source/

Other distribution of OpenSSL (Windows and Solaris)
https://www.openssl.org/related/binaries.html

PFX certificate which is not chained properly

We have seen some cases that the SSL certificate is not chained properly with the root CA certificate and intermediate certificate which cause the SSL service cannot be started up. In such cases, you can try to fix the problem by extracting the pfx certificate into a private key and a certificate file with the following commands, import the proper root CA certificate, intermediate certificate and re-import the certificate into the keystore file.

Step 1: Extract Private Key and Public Key from the PFX file.

```
<openssl_exe> pkcs12 -in <pfx_keystore_path> -out
<private_key_file> -nodes -nocerts
```

```
<openssl_exe> pkcs12 -in <pfx_keystore_path> -out
<ssl_cert_file> -nodes -clcerts -nokeys
```

Example
C:\OpenSSL\bin>openssl pkcs12 -in my_pfx.pfx -out my_private.key -nodes -nocerts Enter Import Password: MAC verified OK

```
C:\OpenSSL\bin>openssl pkcs12 -in my_pfx.pfx -out SSL.crt -nodes -clcerts -nokeys
Enter Import Password:
MAC verified OK

C:\OpenSSL\bin>
```

Assumption:
• my_pfx.pfx is the pfx file obtained by your CA or exported from other tools.
• my_private.key is the private key output file.
• SSL.crt is the SSL certificate output file.

Step 2: Put the CA root and intermediate certificate into your SSL certificate.

Use a text editor such as Notepad in Windows to embed the CA's root certificate, intermediate certificate into the SSL.crt , the CA root certificate is placed at the top, intermediate certificate in the middle and the original SSL certificate at the bottom.

Note:
• The length of the certificate is shorten and modified to fit into this section.
• No line feed is required between certificates.
• Make sure there are no invisible characters at the end of each line.

Example (SSL.crt)
```
-----BEGIN CERTIFICATE-----
MIIDxTCCAq2gAwIBAgIBADANBgkqhkiG9w0BAQsFAA1UEBhMCVVMx
EDAOBgNVBAgTB0FyaXpvbmExEzARBgNVBAcTClNjbGjbGjAYBgNVBAoT
EUdvRGFkZHkuY29tLCBJbmMuMTEwLwYDVQQDEyhHbb290IENlcnRp
:
:
(A sample root certificate)
:
:
2GTzLH4U/ALqn83/B2gX2yKQOC16jdFU8WnjXf1855eJ1usV2GDPO
LPAvTK33sefOT6jEm0pUBsV/fdUID+Ic/n4XuDE32p2u0mYRlynqI
4uJEvlz36hz1
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
MIIE0DCCA7igAwIBAgIBBzANBgkqhkiG9w0BAQsFADCBgzELMAkGA
EDAOBgNVBAgTB0FyaXpvbmExEzARBgNVBAcTClNjb3Rtc2RhbGUxG
EUdvRGFkZHkuY29tLCBJbmMuMTEwLwYDVQQDEyhHbbyBEYWRkeSBSb
:
:
(A sample intermeditate certificate)
:
:
DsoXiWJYRBuriSUBAA/NxBti21G00w9RKpv0vHP8ds42pM3Z2Czqr
GIo/ikGQI31bS/6kA1ibRrLDYGCD+H1QQc7CoZDDu+8CL9IVVO5EF
LXY2JtwE65/3YR8V3Idv7kaWKK2hJKCavPi8BDAB
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
MIIE9jCCA96gAwIBAgIQMwS6s6pu/WuP4wFEkixiDDANBgkqhkiG9
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMVGhhd3RlLCBJbmMuMR0wG
b21haW4gVmFsaWRhdGlkIFNTTDEZMBcGA1UEAxMQVGhhd3RlIERWI
GIo/ikGQI31bS/6kA1ibRrLDYGCD+H1QQc7CoZDDu+8CL9IVVO5EF
:
:
(A sample SSL certificate)
```

```
:
:
+5E93hMqykOD9Eq6UhA0U13BQ0vAeIINVrmZaKDtTrig/aikLYsxK
yBl50evH8MLjQLpC8GUaVizT+0Z29dqhKwSx3810mQ242QADR6qXl
aGvmAm6p0dQA7aru7ZalUNX8Ebbp6/KQHEIH2pgIinwcxc6hy8JTy
LPEyeRKx02UzxApLkOpO6x9gaFaAjSI=
-----END CERTIFICATE-----
```

Step 3: Export the certificates to a pfx certificate.

After you have put the CA root cert and intermediate certificate into the SSL certificate file, you can export the private key and the SSL certificate into a pfx certificate file.

```
<openssl_exe> pkcs12 -export -out <pfx_file> -in
<ssl_cert_file> -inkey <private_key_file> -name tomcat -
password pass:<pfx_password>
```

Example

```
C:\OpenSSL\bin>openssl pkcs12 -export -out keystore.pfx -in SSL.crt -inkey
my_private.key -name tomcat -password pass:12345678
Loading 'screen' into random state - done

C:\OpenSSL\bin>
```

Step 4: Import the pfx certificate into Java keystore.

Import the pfx certificate with keytool command into the Java keystore.

```
<keytool_path> -importkeystore -deststorepass
<java_keystore_password> -destkeypass <java_key_password> -
destkeystore <java_keystore> -destalias tomcat -srckeystore
<pfx_file> -srcstoretype PKCS12 -srcstorepass <pfx_password> -
srckeypass <pfx_password> -srcalias tomcat
```

Example

```
C:\Program Files\AhsayOBS and AhsayRPS\conf>"C:\Program Files\AhsayOBS and
AhsayRPS\java\bin\keytool" -importkeystore -deststorepass changeit -destkeypass
changeit -destkeystore keystore -destalias tomcat -srckeystore keystore.pfx -
srcstoretype PKCS12 -srcstorepass 12345678 -srckeypass 12345678 -srcalias tomcat

C:\Program Files\AhsayOBS and AhsayRPS\conf>
```

Restart the AhsayOBS service and verify the https service via AhsayOBS management console or AhsayOBM/AhsayACB .

Reference:
- OpenSSL command – PKCS#12 Data Management option
https://www.openssl.org/docs/apps/pkcs12.html#
- keytool command
http://docs.oracle.com/javase/6/docs/technotes/tools/solaris/keytool.html